MR6034A

UHF four antennas reader

specification

IMPORTANT INFORMATION REQUIRED BY THE FCC

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

FCC RF Exposure Statement

The maximum output power is 16.79dBm at 902.5MHz (with 5dBi antenna gain.). The reading distance must be greater 20cm.

Catalogue

1. MR6034A READER SUMMARY

The product can be multi-protocol, quickly read, multi-tag read and four antennas outside.It can connect four flat antennas of different gains at most through high frequency cable, so as to extend the effective range and reduce hardware cost.

- The longest reading distance can be 12m;read quickly, can read the tag of moving sped 120km/h accurately.
- Has the functions of ID NO. enumeration and data reading, writing and locking ,and provides API function for special application, so as to be convenient for customers to make secondary development.
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- It is a industrial level product that needs to fix indoor or waterproof box,aluminium alloy crust,anti-jamming,anti-thunder and waterproof.

Picture 1   MR6034A reader

1.1 MR6034A reader applications

Can be used for goods identification and data collection with its upstanding characteristic, especially used widely in the following area

1) Transportation management: road, railway transportation management and container transportation management and so on.
2) Motor vehicles management: police security, transportation and other departments to supervise and manage all kinds of motor vehicles.
3) Road and bridge charge: for this product has the ability of long range and quickly read,   road and bridge can charge without stopping cars.
4) Custom pass management: custom pass, and transformation goods and vehicles management.
5) Storage logistics management: goods flow and storage management and the flow management of mails, packages and air luggages.
6) Craftwork productive flow: supervise parts in the whole course of production.

1.2　Mr6034a reader fuctions

1)Rouse tag: only the tag that is roused can be communicate with reader and prevent interference from other tags outside the system, so as to make the changing information between the system and tag reliable and accurate.。

2)Read tag data: not only can read the ID NO. of tag, but also can read the data of the appointed tag storage area; not only can read single tag data, but also can read multi-tag datas in the range of antennas wave.

3)Write tag dat: can write data in the appointed tag storage area.

4) Make data communicate and change with the connection between　standard communication interface and controller or PC, provide SDK development bag for customers to make further development and application.

1.3　MR6034A reader scanner paramenters

1) Operation frequency: ISM 902.5~927.0AMHZ.

2) Reading distance: identification distance adjustment range: 1~12m(with 5dBi antenna outside)

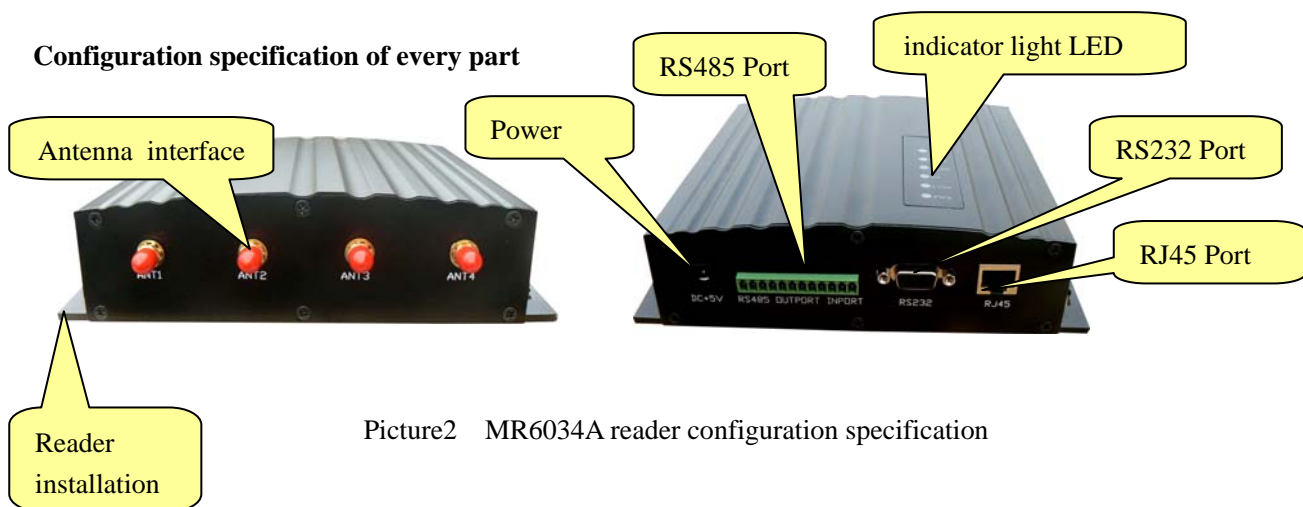3) Reading time: single tag per 64 bits ID NO. <6mS

4) Operation voltage: DC＋9V

5) Operation tem: －20℃ ～ +80℃

6) Storage tem: －40℃ ～ +85℃

7) Dimension: 170mm*165mm*45mm

2. MR6034A reader configuration and interface specification

Configuration specification of every part

Picture2　MR6034A reader configuration specification

2.1 Reader interface specification

2.1.1 RS232

The reader provides RS232 communication interface, ,so as to communicate with controllers(generally PC)The data format of RS232 is 8 data bits,one star bit and one stop bit,no parity bit;data rate can choose 9600,19200,57600 and 115200.RS232 interface supports reader parameters deployment, demonstration program and all the secondary development bag function of straight communication.

2.1.2 RJ45

This reader supports RJ45 (Ethnet)interface of international standard.

2.1.3 RS485：

The reader provides RS485 communication interface,RS485 can be connected with PC interface with RS232-RS485 conveter to convert.With this mode,RS485 interface supports all the functions that RS232 does.

2.2 Tag operation

2.2.1　ISO18000-6Btag：

➢ Multi-tag identification: search all the tags in the range of antennas radiation, and read their UID of 8 bytes.
➢ Multi-tag reading: search all the tags in the range of antennas radiation, and read their 8 bytes data of the appointed address
➢ Single tag writing: write one byte data in the appointed tag address.
➢ Single tag locking: lock the data of the appointed tag address.After that ,it can not rewrited.
➢ Single tag locking and inquiring :inquiry the locking state of the appointed address.
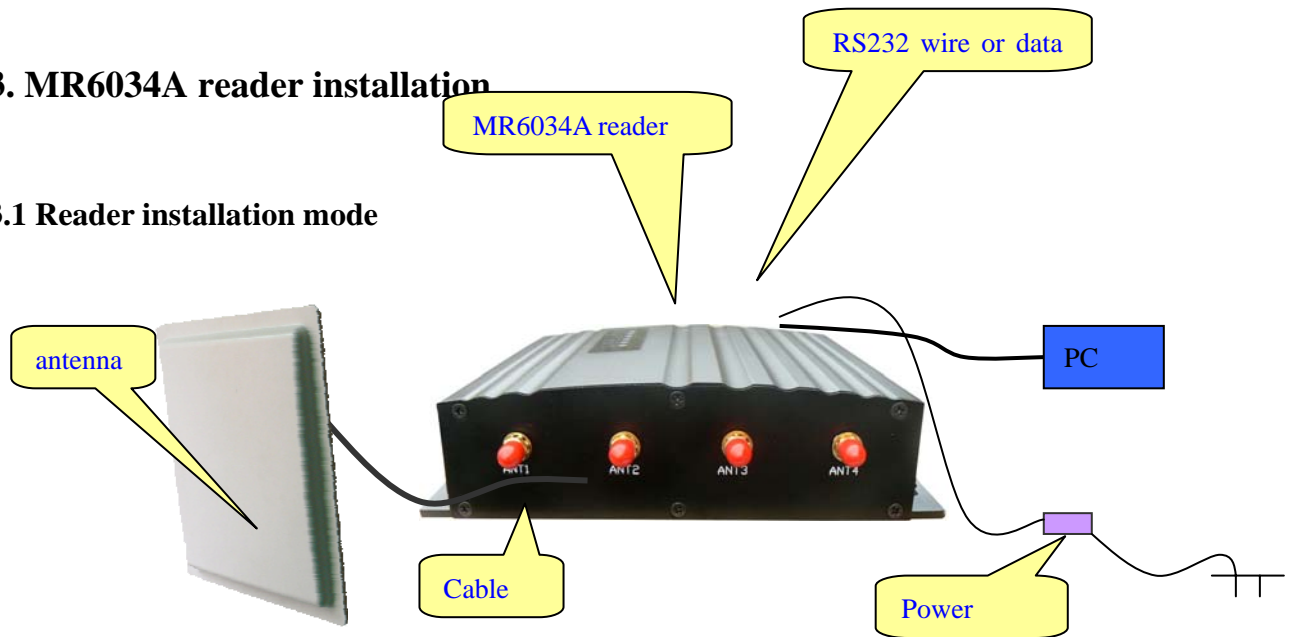
2.2.2 EPC GEN2（ISO18000-6C）tag

➢ Multi-tag identification: search all the tags in the range of the antennas radiation,and read their EPC.The longest EPC of EPC GEN2 can be 256 bits,now supports 96 bits.
➢ Single tag initialization: define the length of EPC,generally 96 bits.
➢ Single tag writing: write the EPC of tag,one block(16 bits)one time.
➢ Single tag locking: lock the EPC of tag.After that ,the EPC of tag can not be rewrited.。
➢ Single tag killing: kill tag.After that,the tag can not be used again.

2.3. Operation mode

Command operation mode: with this operation mode,the reader operates under the OC or other controller.The reader and the controller can communicate through RS232,RS485 or Ethnet..This working mode supports all the functions that secondary development provides.
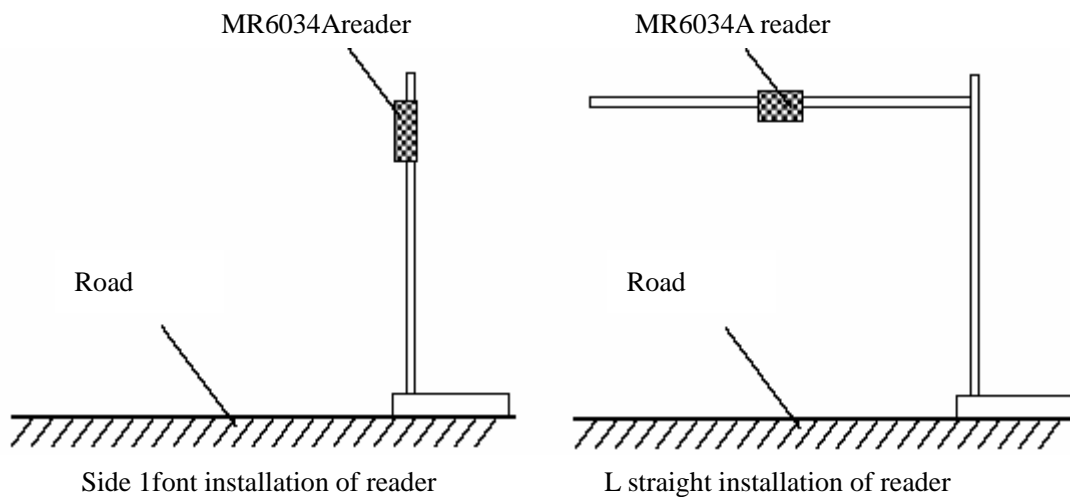
3. MR6034A reader installation

3.1 Reader installation mode

RS232 wire or data

MR6034A reader

antenna

PC

Cable

Power

Picture 3　installation effect sketch

The directional antenna(model: **D900V0590-Y)** installation of MR6034A reader has two kinds:" side 1 font installation" and "L straight installation", like the following pictures indicate: generally, the reading and writing distance of side installation is shorter, but easier to installate; the reading and writing distance of top installation mode is further but more complicated to installate.MR6034A supports four antennas to connect outside.
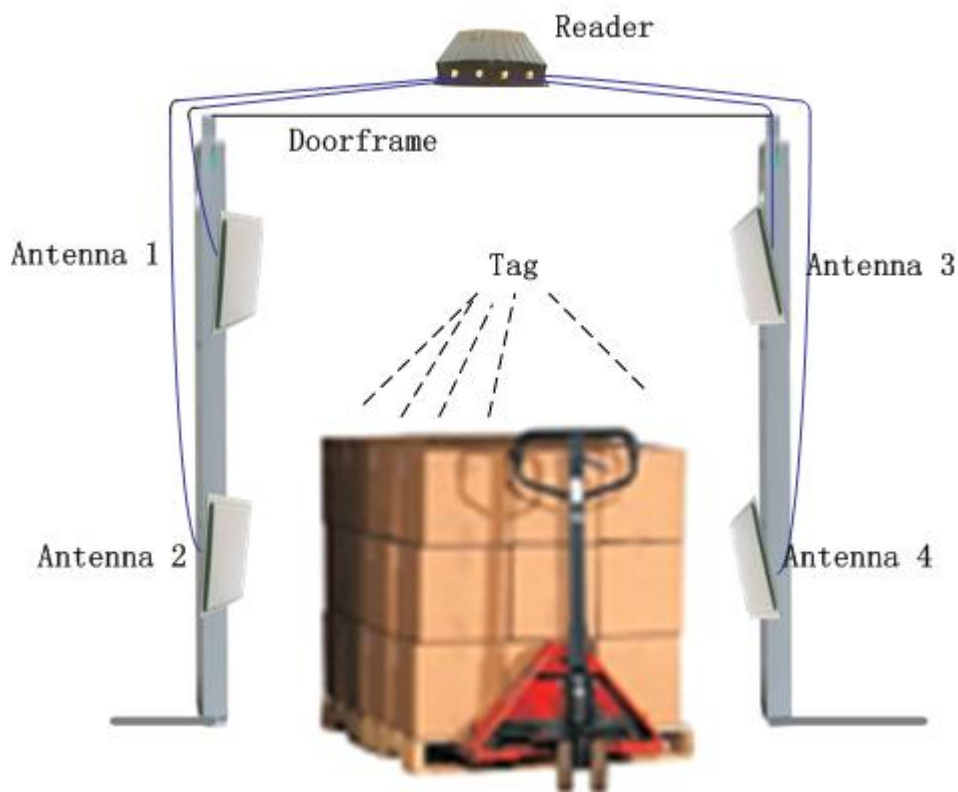
MR6034Areader

MR6034A reader

Road

Road

Side 1font installation of reader

L straight installation of reader

Picture 4　reader installation mode

3.2 the fixation and height adjustment of the reader

➢ When frank fitting ,it demands that the crutch dia.of the reader 50 to 60mm while length2.2m Using stain steel material that more than 1.3m thick is the best choice. Fix the reader to the top of the crutch with the self-provided fastening pin in the casing of MR6034A reader .Adjust the height from the center of MR6034A reader to the level of carriage way, according to the vehicle style(mainly indicates the oversize vehicle and landauter), generally about 2.0m(from 1.8m to 2.2m)

➢ When crutch top fitting like the shape of letter L,it demands the dia. of L shape (or dragon-door shape) crutch is from 60 to 80mm,while rail dia.50 to 60mm.It is best to sue stain steel material that more than 12 to 20mm thick. Fix the MR6034A reader to the rail that near the middle carriage drive. The height that the rail to the ground is needed to adjust from 1.0m to 4.0m,according to the height of vehicle

3.3   Setting sketch map of the reader

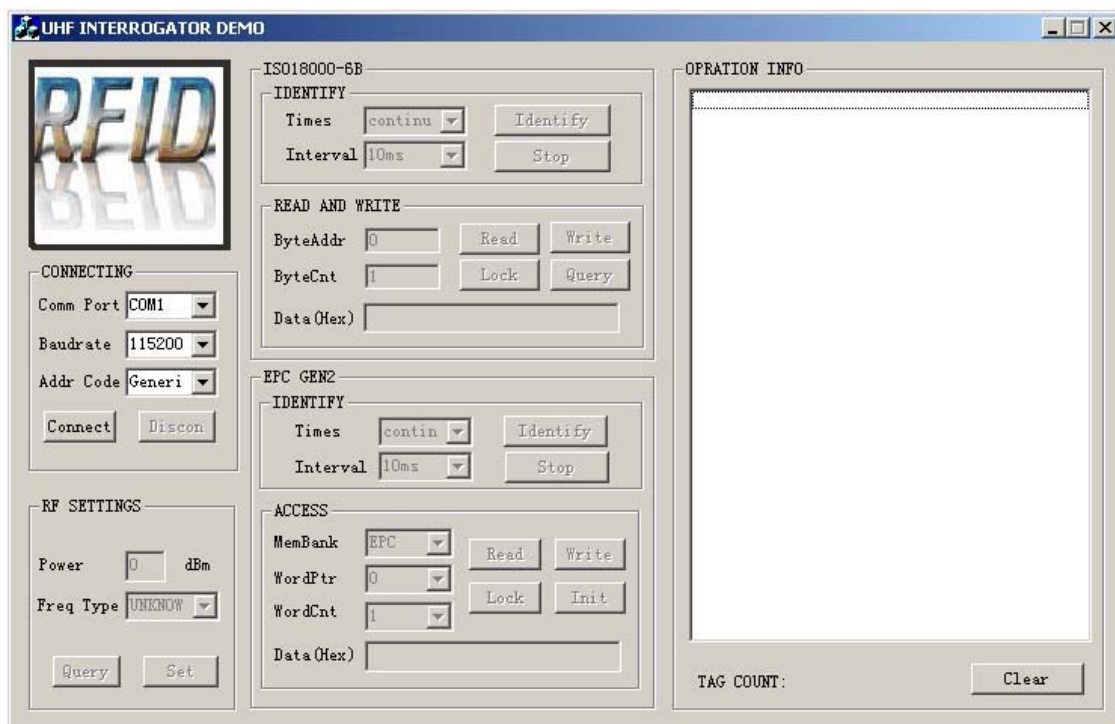Picture 5   the sketch map of the MR6034A reader

Attention：MR6034A reader can connect four antennas which are fixed on different sites so as to read the electronic tag on goods smoothly.

4. MR6034A demo program instructions

4.1 RS232 port DEMO

Reader demo program offer all operations and reader'frequency parmeters for tags.User can use the demo to evulate reader'funtions

Reader demo program includes two parts: "DEMO.exe"and"MR915ApiV10.dll".User should put these two parts in same documents items,then click "DEMO",can run..clip is as follows:
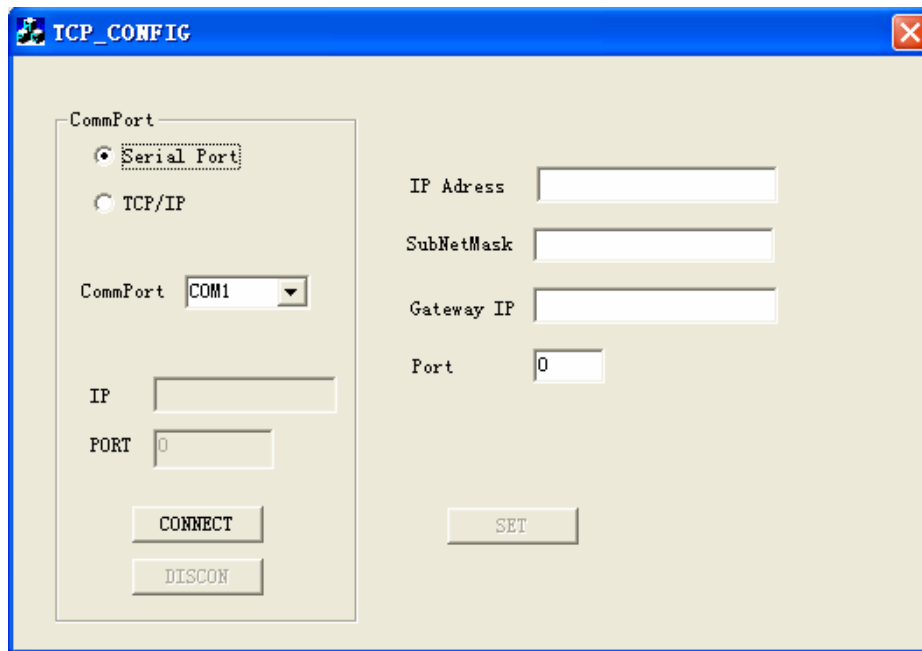

Choose COM communication port and baud rate ,and choose right address,also can use common address,then click "connect"button to connect reader successfully ..then reader is connected,will shows some contexts on right box..when connect successfully,you can do all demo operations

4．2 RJ45 port DEMO

4.2.1 RJ45 port IP setting.
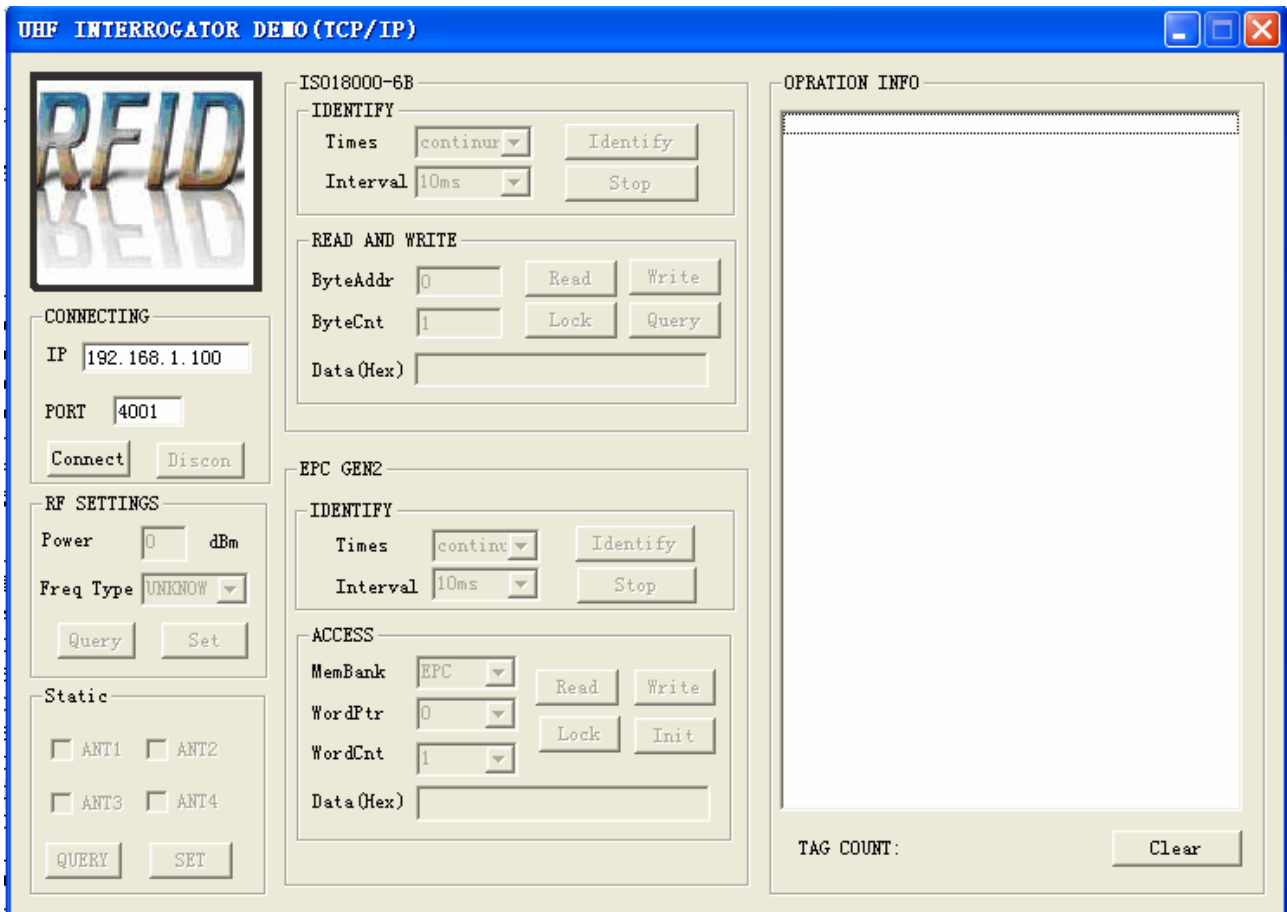Open th "TCP¬_CONFIG"software，the interface is like the following picture indicated:

IP query:connect reader and computer toghter with RS232,choose"Serial Port"and COM,click"CONNECT",then the IP column will show the IP address and port of that time after success.

IP setting:connect reader and computer(RS232 AND RJ45),the left of the interface will show the IP address of that time,plswrite down the IP address in the "Gateway IP"that would be modified,click"SET",then restart the reader after success.

4.2.2 RJ45 DEMO Explain

Reader demo program includes two parts: "DEMO.exe"and"MR915ApiV10.dll".User should put these two parts in same documents items,then click "DEMO",can run..clip is as follows:

5. MR6034A sencondary development

User can do secondary development for application software according to user'demands.We offer secondary development .can support VC++,VB,Dephi,C++Builder,detailed that you can reference (MR reader SDK instructions).

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.

Important Note:
The device should be installed by licensed professionals (EUT sold to dealer who hire installers)