UHF RFID Robot Reader
AT Command
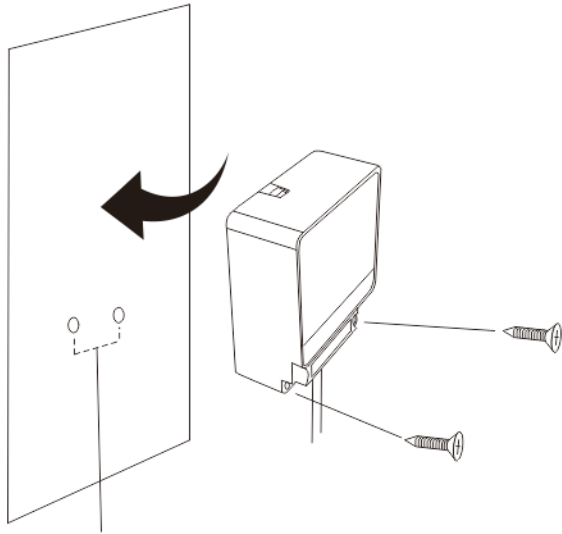
Model：WS-RFIDBY
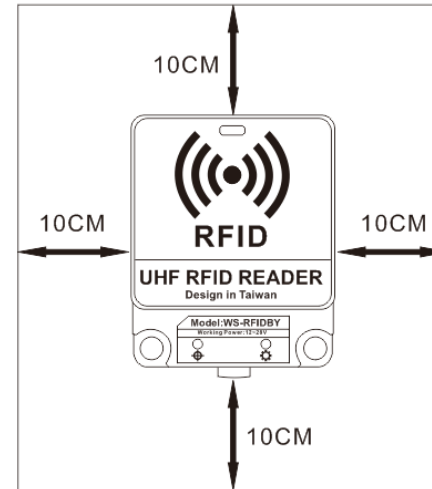
Version History

Version	Date	Changes
V1.01	11, April, 2017	1st Edition

Installation Direction (install on the wall)

The distance between two hole site of screws is 47.5MM

10CM

10CM **RFID** 10CM

UHF RFID READER
Design in Taiwan

Model:WS-RFIDBY
Working Power:12~28V

10CM
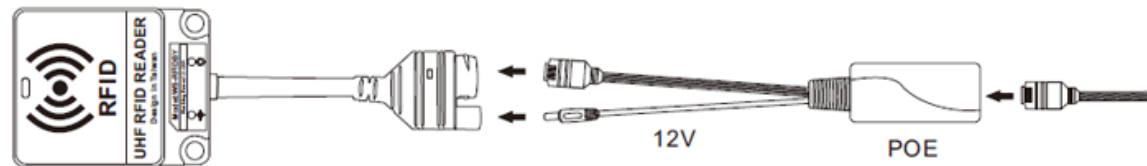
Headroom at least 10cm around

WS-RFIDBY-TCP (insert the network line and power cord)

1. DC 12V 2A

12V
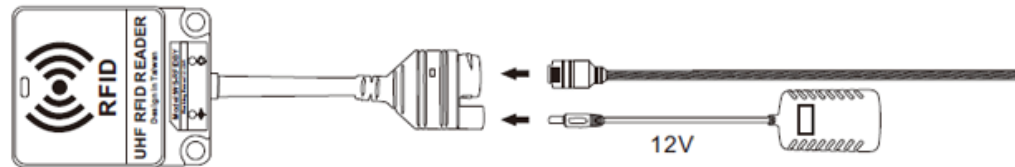
2. POE

12V   POE

Setting of the internet (WS-RFIDBY-TCP Only)

1. Please insert the WS-RFIDBY-TCP's network line and power cord. (Connected to the computer or LAN)
2. Execute ALL in one NET tools after you turned on it the screen is as following.

3.   Search the equipment in the LAN, touch "Search in LAN" button.

4. After the equipment was being found, the IP location will show up.

5. Read the parameter on the internet, click the button twice then the left will show up the equipment's IP automatically.

6. Modify the setting parameter on internet. Find the suitable setting on the left and correct it. Click "Setup via NET" to correct it.

7. After you did the modification, the notification will bump up.

8. Restarted, put off the power cord of WS-RFIDBY-TCP and plug in again. Touch the Search in LAN button twice. You can find the IP of the equipment. Male sure the internet setting is correct or not.
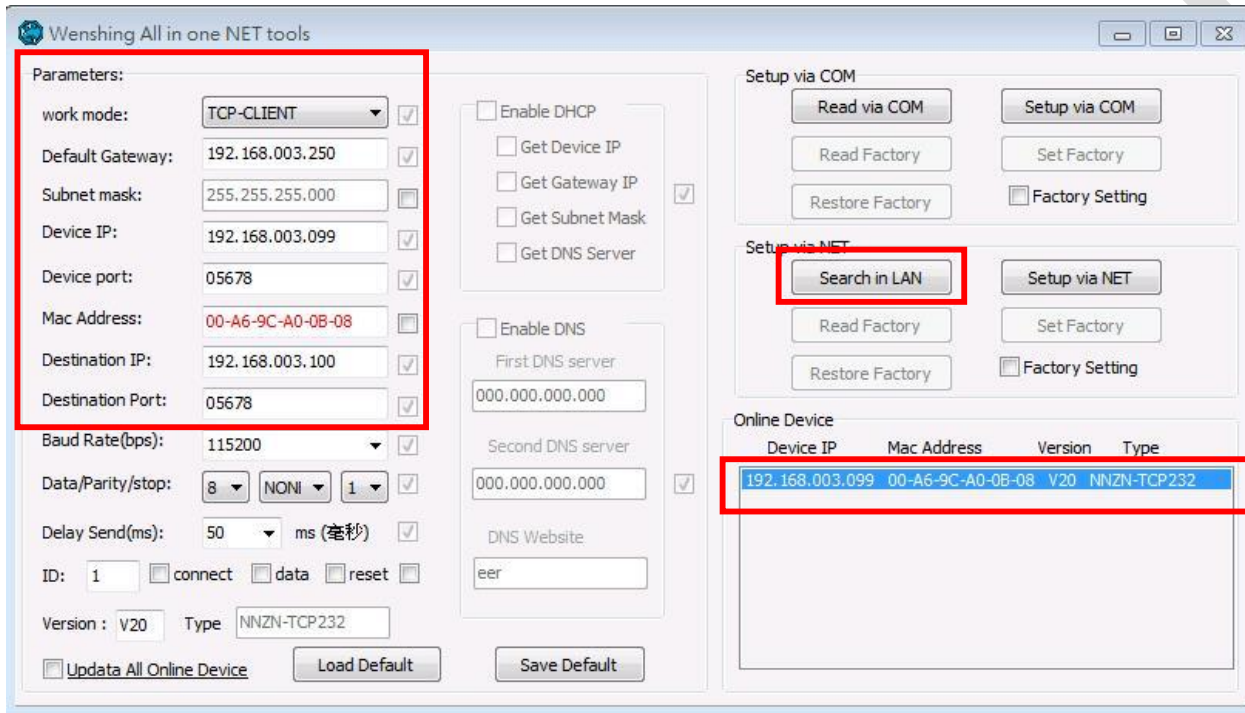
PC the way of setting wired network is only for WS-RFIDBY-TCP

1. Setting the personal computer internet parameter. To modify the setting on the personal computer part and it should be based on the setting parameter.
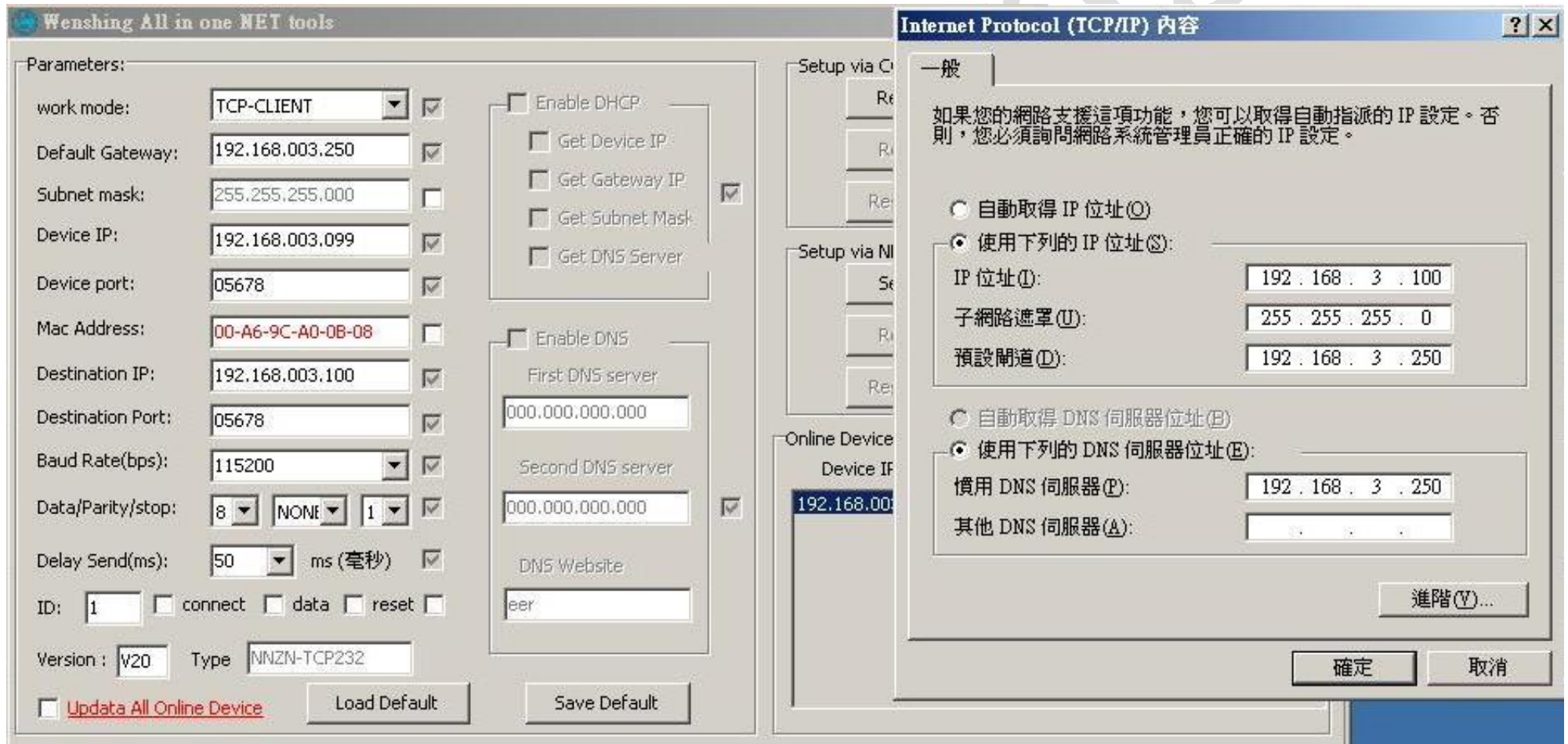
2. Test on the communication, PC part execute TCP Server software and set the appropriate port. Send the AT order to test the communication is correct or not.
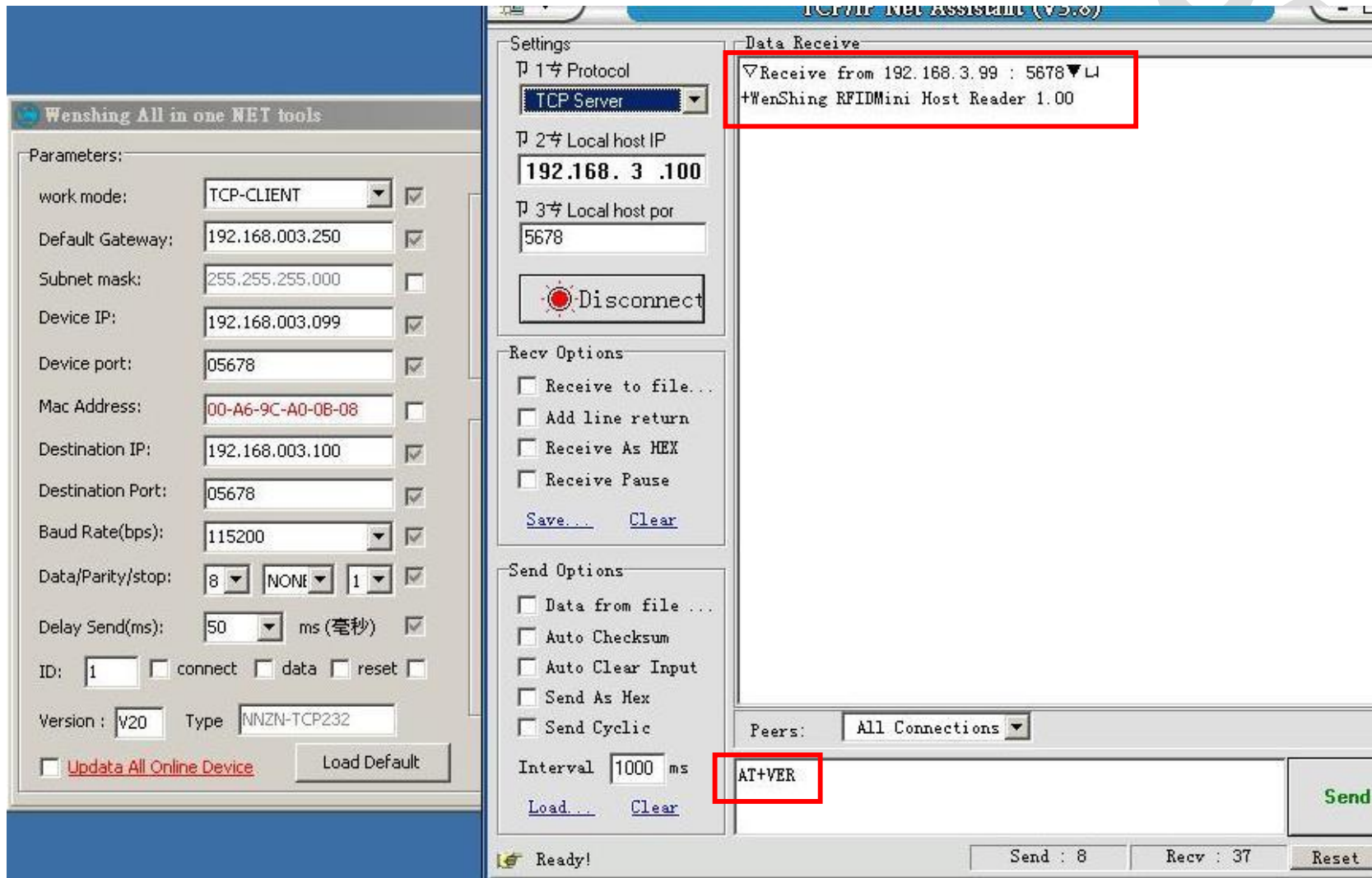
Output Data Format

Byte1 = 0x53 Suggesting output data is TAG TID；Data format reference as below：

Byte 0	Byte 1	Byte 2	Byte 3~N	Byte N+1
0x02	0x53	Length of data being read	TAG TID	0x03

Byte1 =0x54 Suggesting output data is TAG EPC；Data format reference as below：

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4~6	Byte 7	Byte 8~9	Byte 10~N	Byte N+1
0x02	0x54	Length of data being read	RSSI value being received	Frequency being received and Antenna port	PC+EPC Length	PC (Tag assortment)	TAG EPC	0x03

Byte 4 is frequency low byte

Byte 5 is frequency middle byte

Byte 6 is frequency high byte and antenna port

When bit 7=1 the frequency value is 0E, bit 7=0 the frequency value is 0D

Bit 0~5 is received antenna port , antenna 1=0 0000、antenna 2=0 0001、antenna 3=0 0010、antenna 4=0 0011

WENSHING®©

AT Command

" Newline" for each command (Attention: Before you send all of the orders, you should stop scanning)
The order 0001 is the equipment ID Address, you can use the ID to set the assigned information or assigned the equipment send back the information. Parameter is range form0001 to 9999

	AT COMMAND	RFID Reader Return	Function Explanation
1	AT+0000-FindDeviceID		search all of the equipment's ID address in LAN.
		+0000-FindDeviceID:0001	0001 represents the ID address.
2	AT+0001-DeviceID:0002		modify the ID address of equipment.
		+0001-DeviceID:0002	command succeed.
3	AT+0001-Scan:0		setting the model status : 1 =scan, 0= stop scanning. Default = 1
		+0001-Scan:0	instruction succeed.
4	AT+0001-VER		read the version of equipment.
		+WenShing RFIDBY4 Reader 0.01	the name of the equipment and firmware version.
5	AT+0001-BuzzTime:3		control the sound of buzzer: when you give the command "at+0001-buzztime : 3". the buzzer will ring for three times. if you want the buzzer rings for twice give the command AT+0001-Buzztime:2. setting parameter range is from 1~9.
		+0001-BuzzTime:3	command succeed. the buzzer will ring for three times.
6	AT+0001-BuzzONOFF:0		to set the buzz, after read the Tag it will turn on the notification control. =0 – turn off the notification of sound.

11

			=1 – turn on the notification of sound.
		+0001-BuzzONOFF:0	command succeed.
7	AT+0001-Reset		reset the system.
		+0001-Reset	command succeed.
8	AT+0001-SetPower:30dBm		set the delivered power. the range is from 19dbm to 30dbm.
		+0001-SetPower:30dBm	command succeed.
9	AT+0001-Mode:S0		S0 : with the RFID technology, you can get response after the scanning of Tag. most use in testing environment. S1 : scan many Tags, you can get the response after one second. it is used in counting, lane, logistic. S2 : scan many Tag s, you can get the response after you left the area for a while and return. most of these were used in racing, logistic. S3 : scan many Tags, after you got response from the Tag, you should leave the receiving range district for a while and come back to the receiving range district. Then you will get the response from Tag. most of these were used in racing, logistic. Default = S1
		+0001-Mode:S0	command succeed
10	AT+0001-SetQuery:SL=0,SS=0,TG=0,Q4		parameter SL : always be 0 parameter SS : 0=S0 1=S1 2=S2 3=S3 S0 : with the RFID technology, you can get response after the scanning of Tag. most use in testing environment. S1 : scan many Tags, you can get the response after one second. it is widely used in counting, lane, logistic. S2 : scan many Tag s, you can get the response after you left the area for a while and return. most of these were used in racing, logistic. S3 : scan many Tags, after you got response from the Tag, you

			should leave the receiving range district for a while and come back to the receiving range district. Then you will get the response from Tag. Most of these were used in racing, logistic. Default = S1. parameter TG : always be 0. parameter Q : the range is from Q0~Q7, you need to set it bigger. when you need to scan many Tags in the same time.
		+0001-SetQuery:SL=0,SS=0,TG=0,Q4	command succeed.
11	AT+0001-ReadDeviceMessage		read the setting parameter.
		+0001-ReadDeviceMessage	command succeed
		+Sel=0	Default = 0
		+Session=1	Default = 1
		+Target=A	Default = A
		+Qbegin=4	Default = 4
		+WorkingArea=2	working frequency=2

13	AT+0001- Read:1,00,00000000,08,201309 248726030001020022		read the assigned information of Tag. parameter1 : =0 – read Tag's coding area. =1 – read Tag's EPC area. =2 – read Tag's TID area (read only). =3 – read Tag's reading area. paremeter 2 : read from the location 00, start to read parameter 4 and fill in the words (1Word=2byte). the range is form 00~FF. parameter 3 : 00000000: interviewer coding parameter. paremeter 4 : 08 shows that how many words are there(unit is Hex). parameter 5 : EPC number.
		+0001- Read:1,00,00000000,08,2013092 48726030001020022<00> →2DF135172013092487260300001020022 或 +0001- Read:1,00,00000000,08,2013092 48726030001020022<09>	<00> : the Tag is correct. <09> : the Tag is not exist. <A3> : parameter 4 is out of storage zone.

| 14 | AT+0001-Write:3,00,00000000,20130924 8726030001020022,098765432 10987654321 | | write down the assigned information of Tag.
parameter 1 : 3– write access to user area of Tag :
=0 – write access to coding area of Tag.
=1 – write access to EPC area of Tag.
=2 – the TID area is for read only cannot be written.
=3 – write access to Tag area from the user part.
paremeter 2 : 00– write in form the location 00, each data should.
base on the word (1word=2byte).
parameter 3 : 00000000：interviewer code.
parameter 4 : EPC number.
parameter 5 : the length of should be in twofold of byte. |
| | | AT+0001-Write:3,00,00000000,2013092487 26030001020022,098765432109 87654321<00> | <00> : shows that the reading is correct.
<10> : shows that the Tag is not existed or you got the wrong EPC number. |