永奕科技股份有限公司
YEON TECHNOLOGIES CO., LTD.

YRU-150
User Manuel installation
and
operations guide

Catalog

A. Warning

Federal Communication Commission Interference Statement

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.

FCC Caution:

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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

B. Introduction

UHF RFID EPC C1G2 Reader Features

- Compatible with ISO-18000-6C
- 2 / 4 Antenna Port (SMA Jack)
- Support Ethernet, RS232, RS485, USB Interface
- Support GPIO function(4 input & 4 output)
- Average power consumption: under 420mA at 12V
- RF out MAX=25dBm

C. Reader Spec.

Electrical characteristics

1.2.1 DC characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Average operating current	I_{oc}	-	320	-	mA
Standby current	I_{sb}	-	170	-	mA
Peak current	I_{peak}	-	420	-	mA

1.2.2 AC characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
RF Output Frequency	F_c	922	-	928	Mhz
RF Output Power	P_{out}		-	25	dBm
RF Transmission setup time	T_{RF_OUT}	-	-	0.5	ms
RF Frequency error	Ferror	-	-	1000	ppm
Transmit data rate	TRate	-	26K	-	bps
Modulation	ASK				
Modulation Type	90% normally				
Data Coding	PIE				
Demodulation	ASK				
Download data rate	DRate	-	40K	-	bps
Data encoding	FM0				

D. Connector Description

4 SMA Antenna port

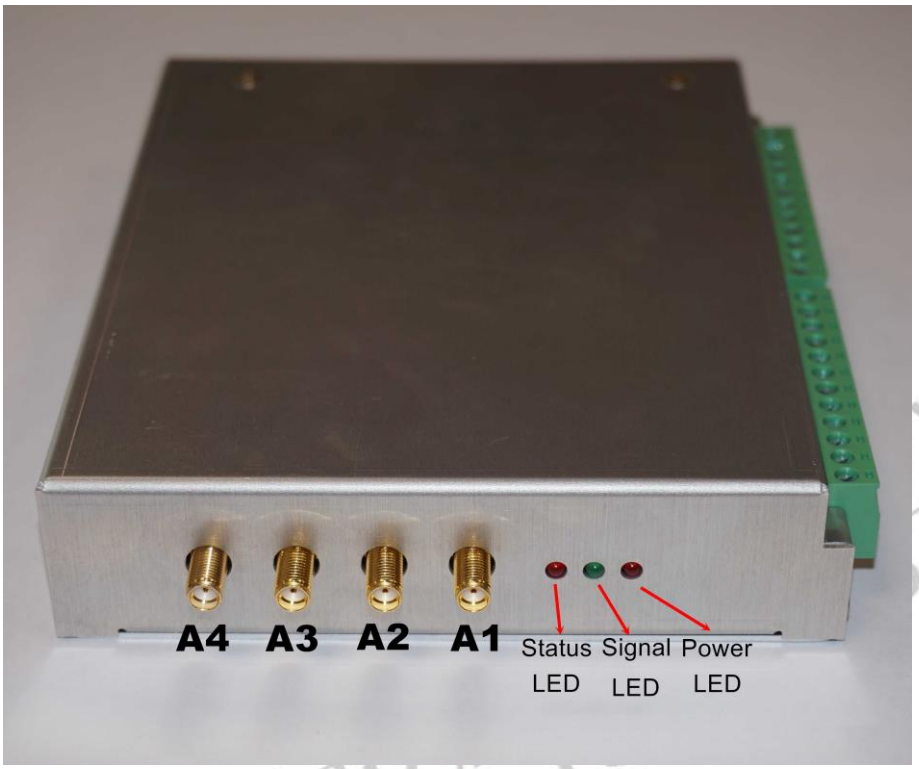


Photo1 Antenna Port & LED

Interface

Photo2 DC Power Jack & Connect Interface. (Default configuration is RJ45)

GPIO Connector

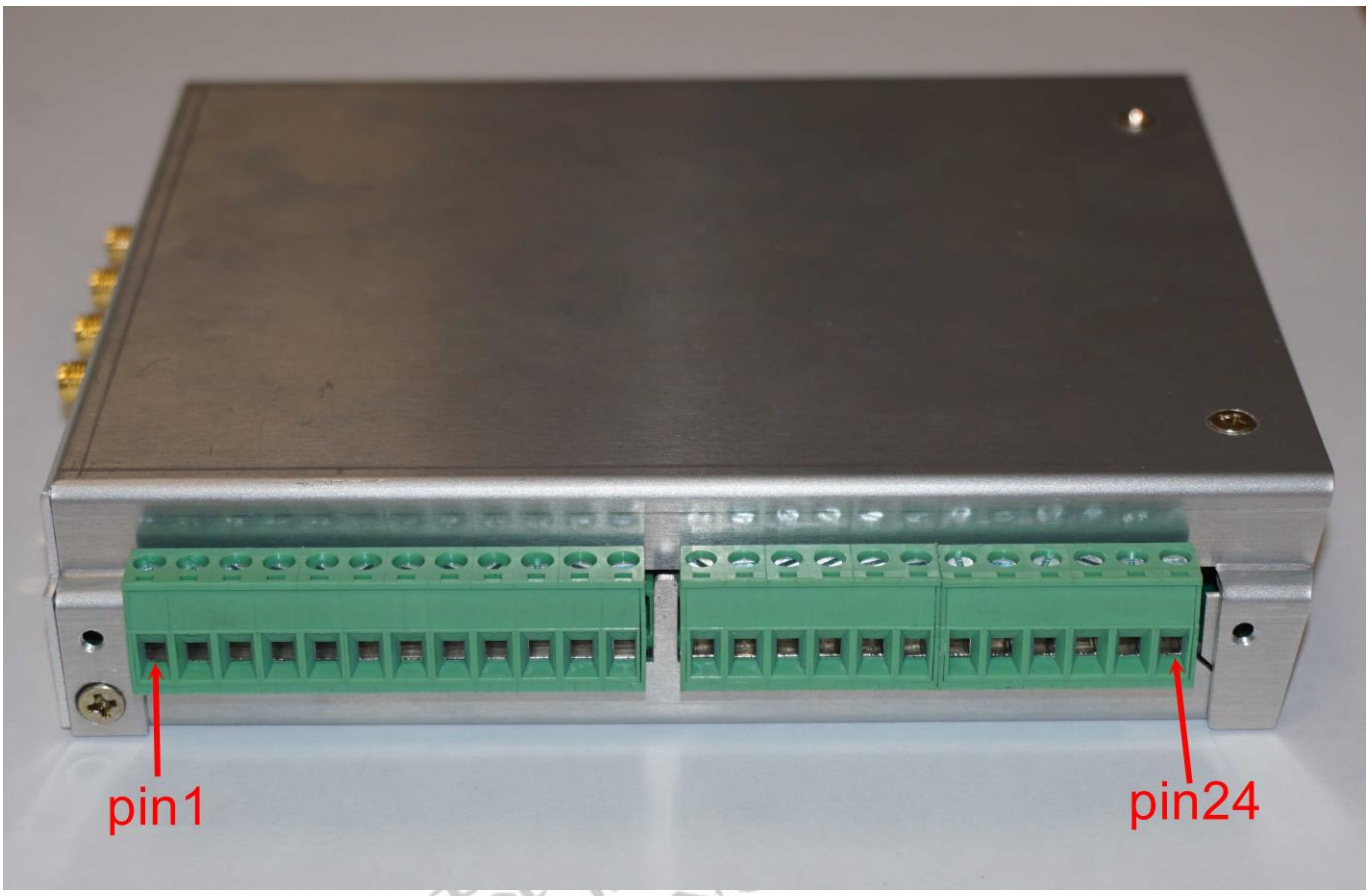


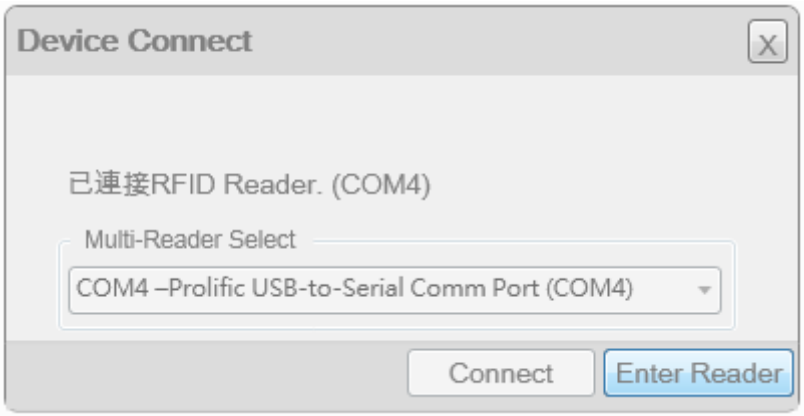
Photo3

PIN No.	Pin name	Description	PIN No.	Pin name	Description
1	GPO1	NC1	**13**	GPI1	GPI1
2		NO1	**14**	GPI2	GPI2
3		COM1	**15**	GND	GND1
4	GPO2	NC2	**16**	GPI3	GPI3
5		NO2	**17**	GPI4	GPI4
6		COM2	**18**	RST	Reset
7	GPO3	NC3	**19**	RS485	RS485+
8		NO3	**20**		RS485-
9		COM3	**21**	12V	DC12V
10	GPO4	NC4	**22**	WD	WD0
11		NO4	**23**		WD1
12		COM4	**24**	GND	GND2

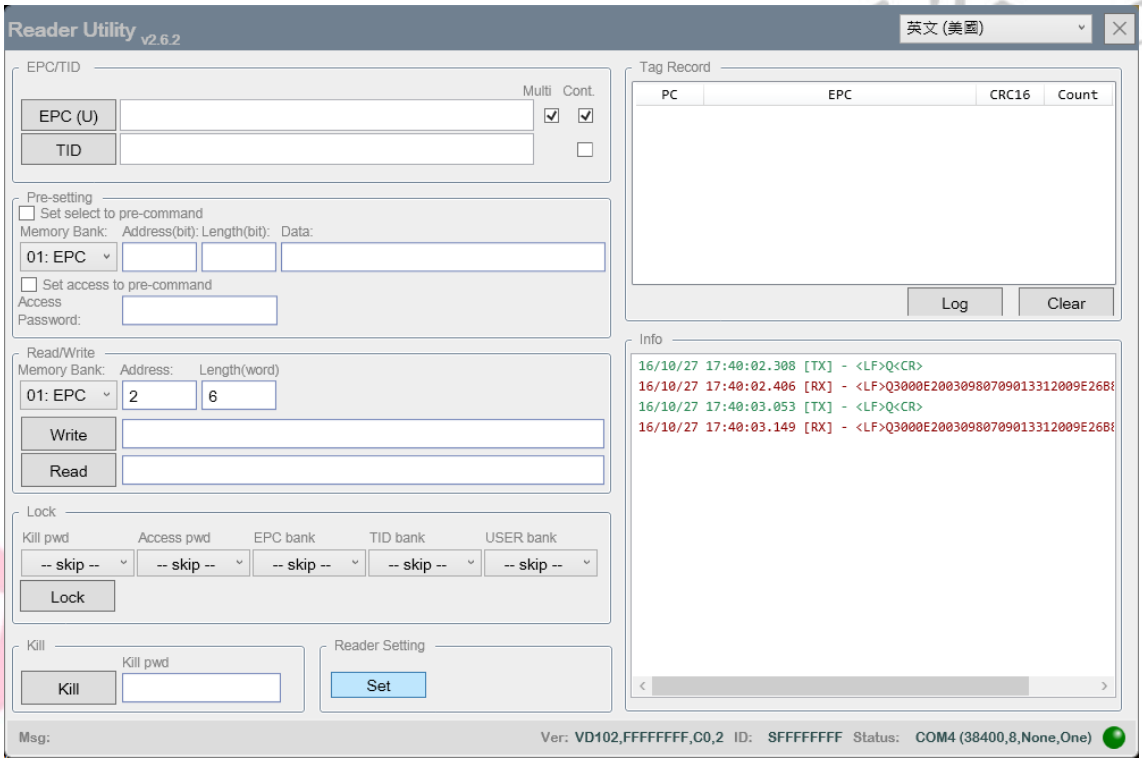
E. DEMO Software Description

➢ Connect Reader & Read EPC

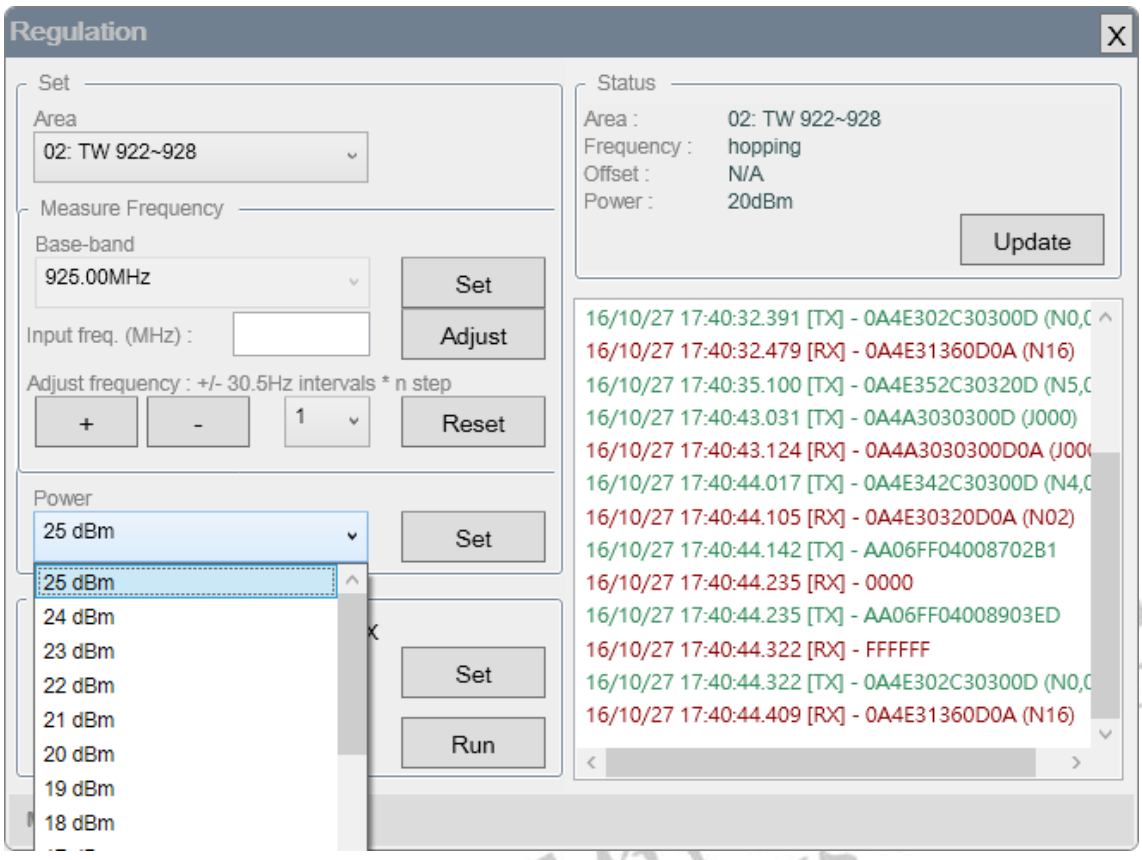
1. Auto select communication port



2. RF Power setting

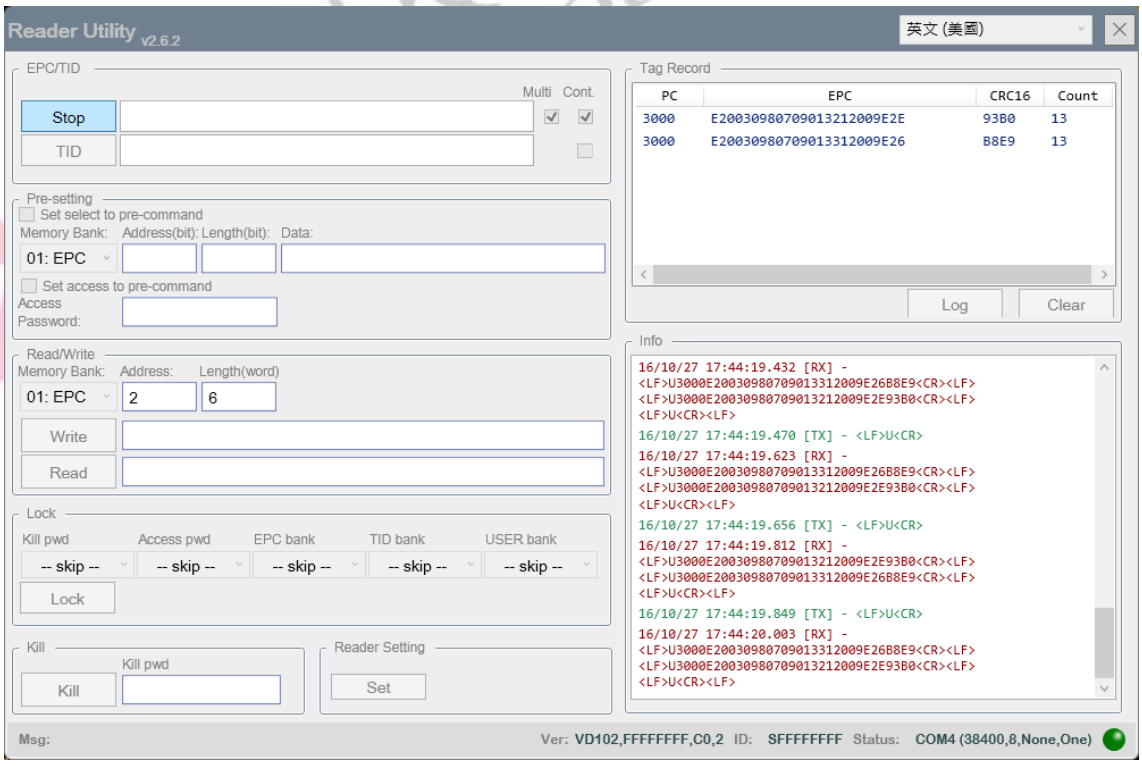


Action: Select Set bottom



Action: Select Drop-down menu, ex: 25dBm

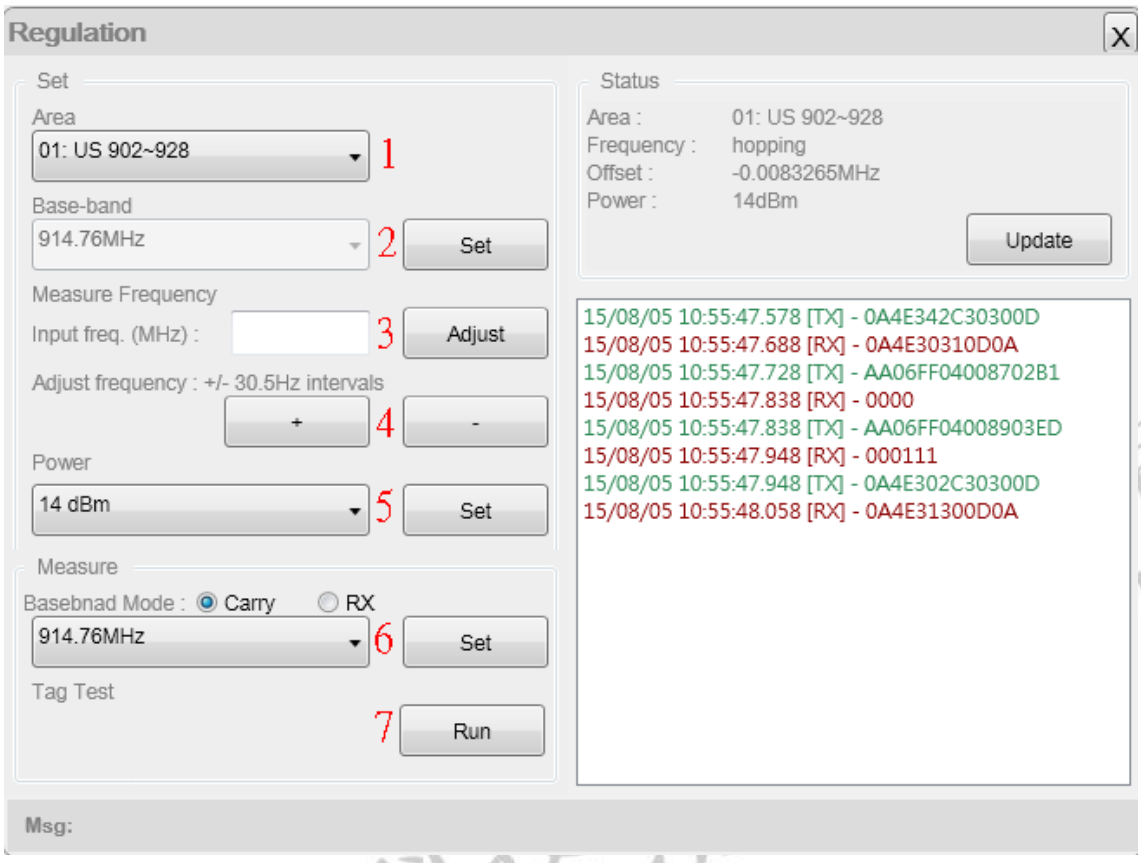
3. Read EPC ID



Action: Select EPC (U) bottom and check Multi & Cont.

➢ Engineering model

1. Select Reader Setting and press Set bottom to enter engineering model



2. Frequency calibration
   2.1 Select test Region《1》.
   2.2 Select test frequency《2》and press Set to completed.
   2.3 Key in the measurement value by Spectrum Analyzer《3》and press Adjust to completed.
   2.4 Adjust manually《4》, press “+” & “-” bottom to calibration.
3. Power setting
   Select power value《5》 and press Set to completed.
4. Carry measurement
   4.1 Select “Carry” and chose frequency《6》, press Set bottom to running test.
   4.2 Select “Rx” and chose frequency《6》, press Set bottom to running test.
5. Modulation testing
   Press “Run” to test modulation test.