IDRO900MA

USER' S MANUAL

October 2009

Identification with Radio and Optical

IDRO.Co.,Ltd http://www.idro.co.kr
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1. Introduction & System composition diagram

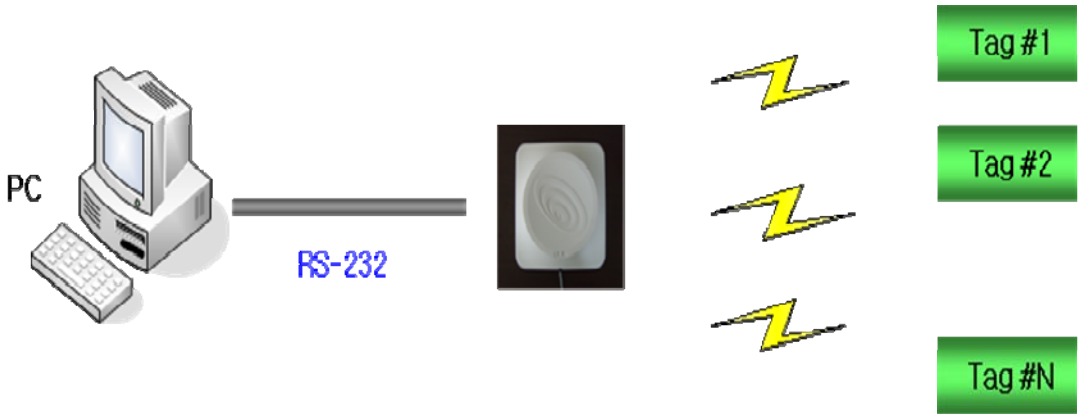
- Introduction

  The IDRO900MA is a compact size RFID reader module developed for the embedded reader market, which comprises printers, industrial PDA, and similar devices. It support the ISO18000-6C(EPCGen2) and ISO18000-6B. It interfaces with a host system via RS-232.

¡Ý Target Application

- PDA type RFID Reader
- RFID Printer
- OEM Module
- Other application

- System composition diagram



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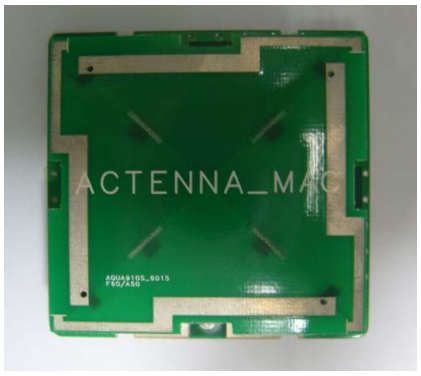
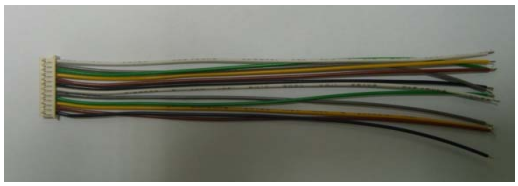
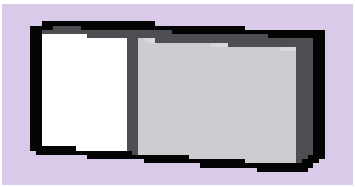
2. Composition parts

RFID Reader module	
ANT	
Interface Cable	
USER'S MANUAL	

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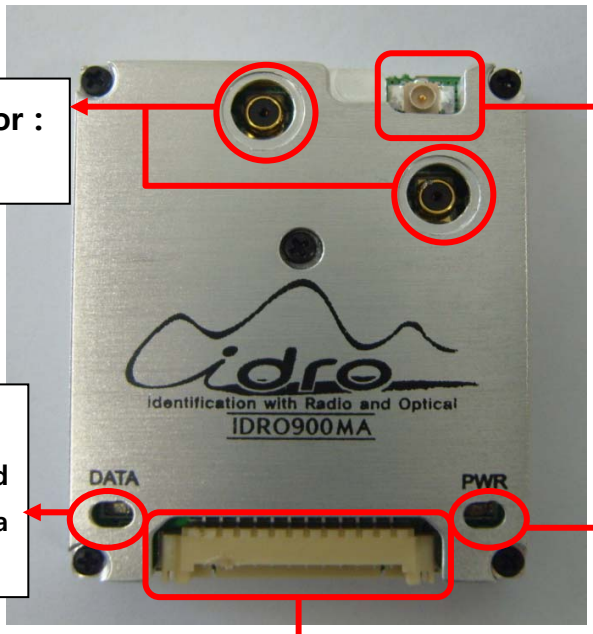
3. Module Description

Photo of IDRO900MA



RF Switch connector :
TX, RX test port..

ANT port :
Connect rf cable to reader module and ANT

DATA LED :
The LED is twinkled when the reader get a tag data.

Power LED :
The LED is ON when the reader is powered

Interface connector :
Supply votage and interface with a host system(PC,PDA...) via RS-232 Serial.

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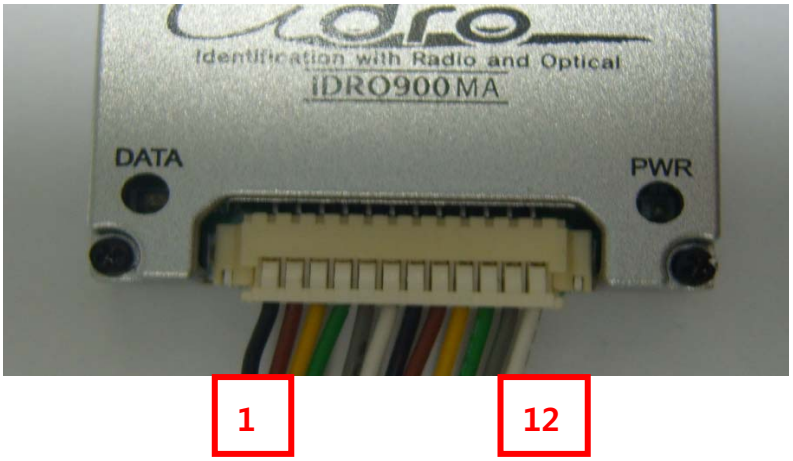
Interface



1	Vcc (3.8~4.2V, typ 4V)
2	Vcc (3.8~4.2V, typ 4V)
3	GND
4	TXD
5	RXD
6	
7	
8	
9	
10	
11	GND
12	

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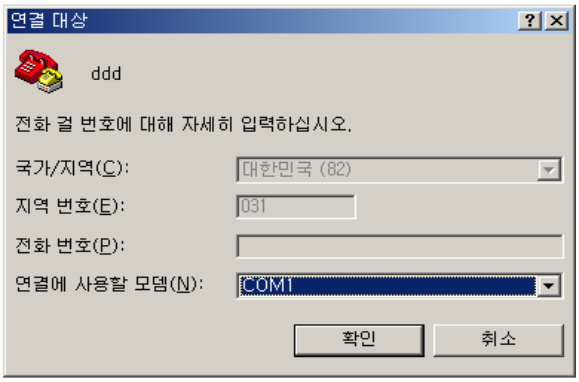
4. Operation method

- **Hyper-terminal setting**

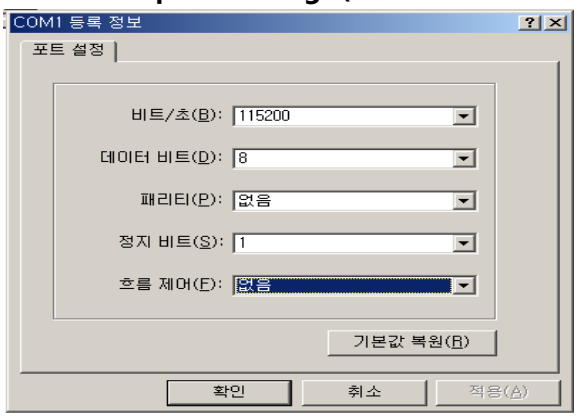
1. Connect serial cable (RS-232) to PC and Reader.

2. Run Hyper-terminal of MS Windows.

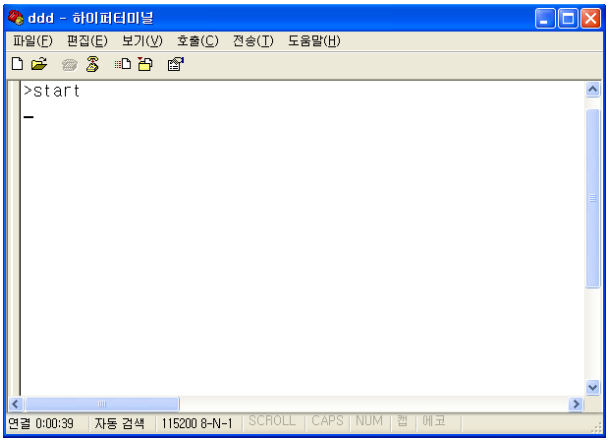
3. Connect COM1 port.



4. Com1 port setting. (baud rate = 115200 bps, etc control value = default)



5. Power on Reader



- **Reader control command**

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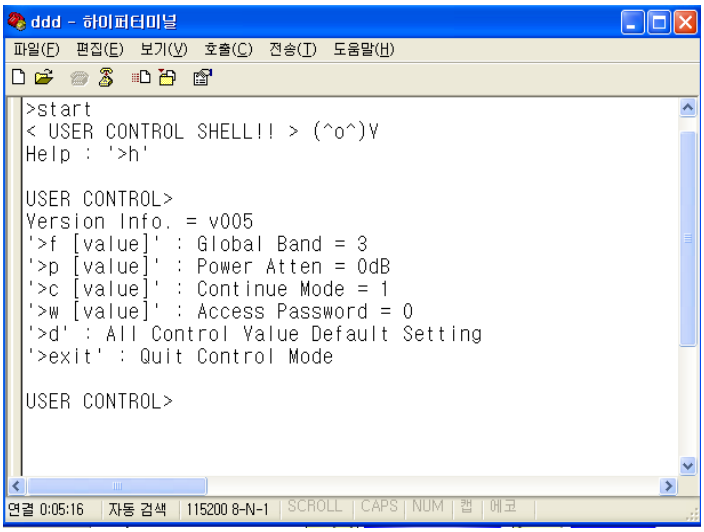
1. **Connect serial cable (RS-232) to PC and Reader**
2. **Run Hyper-terminal of MS Windows.**
3. **Supply voltage(DC5V) to Reader.**
5. **">z" → enter (User control mode)**
6. **">h" → enter (help)**
7. **Change setting value**
8. **">exit" → enter (exit user control mode)**
9. **">e" → enter (modulation RF_ON), ">c" → enter (CW_ON)**

- **User control mode command**



1. **>f : setting global band ex) >f 3 (FCC)**
2. **>p : control antenna transmission power(1dB step) ex) >p 1**
3. **>c : If continue Mode is 0(zero), a reader read only one the same tag data.**
   If continue Mode is 1, a reader read continuously the same tag data.
   Ex) >c 1
4. **>w : access a locked tag ex) >w 0000**
5. **>d : default setting value**
6. **>exit : exit user control**

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5. Specification

- **H/W Version : IDRO900MA (REV03)**
- **Reader Performance**

Description		Value
Power	Max Tx Power	28dBm±1dBm
	Power control	12dBm to 28dBm (1dB step)
Frequency	Frequency Range	902MHz to 928MHz
	Channel spacing	500kHz
	Total no. of channel	50 channel
	Max staying time at the same channel	< 4 msec.
Spurious	< 1GHz	-36dBm / 100kHz
	> 1GHz	-30dBm / 1MHz
Electrical characteristics	Supply voltage	4V
	Max Current (max power)	< 1.3A

- **S/W function**

Item	Value
Start/Stop Control	OK
Power control	OK

- **Interface**

Output connector	CMP Receptacle	
Interface	No. 1 pin	VCC
	No. 2 pin	VCC
	No. 3 pin	GND
	No. 4 pin	TXD
	No. 5 pin	RXD
	No. 11 pin	GND

- **Physical Demension**

SIZE	33mm × 39mm × 7.5mm
Weight	15g

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- **Cautions**

  Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- **This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.**

- **This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) the device may not cause interference, and (2) the device must accept any interference, including interference that may cause undesired operation of this device.**

- **FCC WARNING:**

  This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

- **FCC RF EXPOSURE:**

  The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.