

IDRO900ME-M USER' S MANUAL

V1.11.01

November 2021



IDRO



IDRO900ME User's Manual

Company	Date	Version
IDRO Co., Ltd	2021-11-01	V1.11.01

■ Revision history

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1. Introduction & System composition diagram

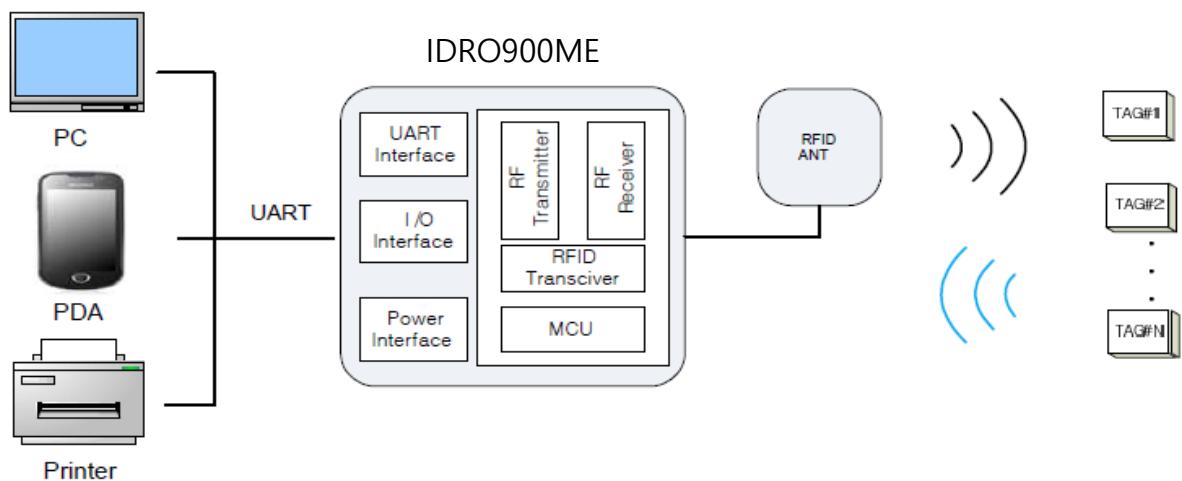
● Introduction

- The IDRO900ME is a compact size RFID reader module developed for the embedded reader market, which comprises printers, industrial PDA, and similar devices. It provides customers with compact size, low cost, high performance functions. It supports protocols of ISO18000-6C(EPC C1G2), and it interfaces with a host system via UART.

- **Target Application**

- PDA type RFID Reader
- RFID Printers / Tag Encoders
- USB Readers
- Smart-Shelves

● System composition diagram



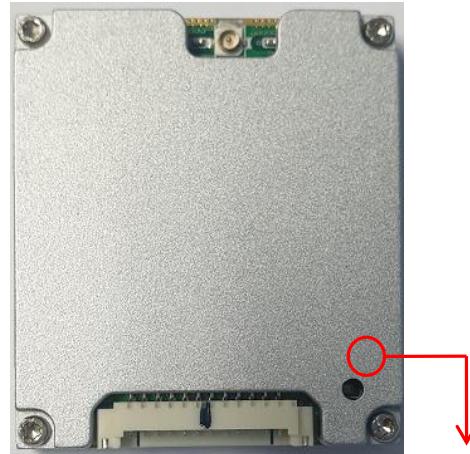
2. Composition parts

RFID Reader module**Interface Cable****ANTENNA(6dBi)
(option)****UART to USB Convertor
(option)****Reader Software &
User Document CD-ROM**

3. Reader Description

Status LED

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DATA LED : The Red LED will twinkle when the reader is receiving data from a tag.

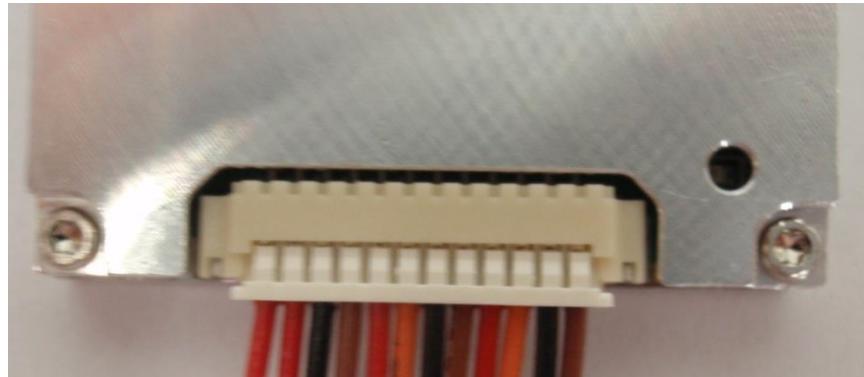
ANT Port



ANT Port : Connect RF Cable to reader module and ANT

Interface connector : Supply voltage and interface with a host system(PC, PDA...) via UART.

Interface Pin-map

**①****⑫**

1	VCC (3.8 ~ 4.2V, typ 4V)
2	VCC (3.8 ~ 4.2V, typ 4V)
3	GND
4	GND
5	GND
6	TXD (IDRO900ME → HOST)
7	RXD (IDRO900ME ← HOST)
8	PWR_ON
9	BAT ADC
10	Not Used
11	Not Used
12	Not Used

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4. Reader Specification

● Reader Performance (KOREA, USA, EUROPE, etc)

Description	Value
MODEL	IDRO900ME
Architecture	UHF RFID Reader Module
Protocol	EPC Gen2 (ISO 18000-6C)
Frequency	917.3MHz to 920.3MHz(Korea) 860MHz to 960MHz (Customizable)
Max Tx Power	30dBm±1dBm (1W)
Power control	5dBm to 30dBm (1dB step)
Hopping Channels	6 (Korea), 50(USA), 4(EUROPE)
Channel Spacing	600KHz (Korea, EUROPE), 500KHz(USA)
Channel Dwell time	< 0.4 seconds
Modulation Method	PR-ASK
Supply voltage	3.8 ~ 4.2V (typ. : 4V)
Max Current (max. power)	< 1.6A
Tag Read Distance(Max.)	< 10m
Operating Temperature	-10°C to +50°C
LED Indicators	Data
Signaling	UART, Baud rate(921.6kbps)

● Interface

Host connector	Part No. : 12505WR-12 Manufacturer : Yeonho Electronics
ANT Connector	Part No. : CMJ-S00 Manufacturer : Giga Lane

● Physical Dimension

SIZE	36mm × 41mm × 8mm
Weight	16g



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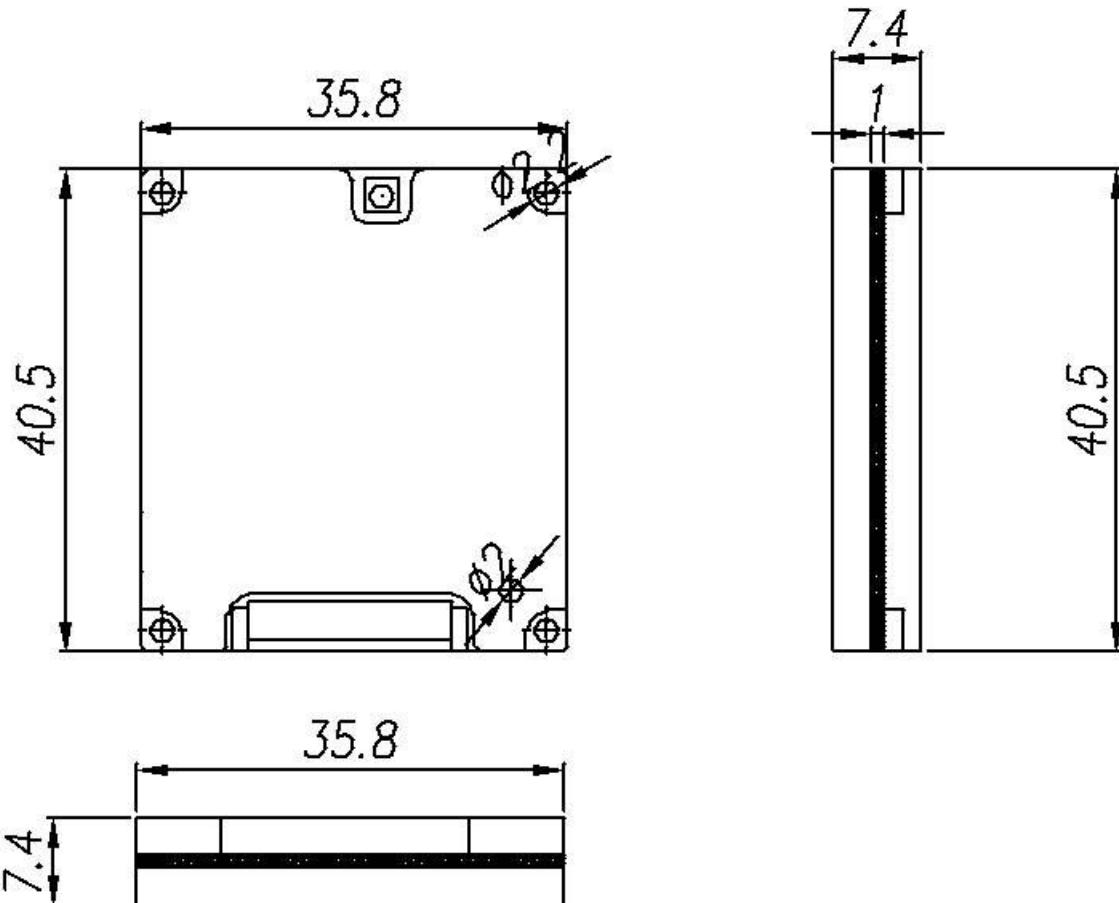
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● Channel number & Frequency table

CHANNEL NO.	KOREA	USA	EUROPE	CHANNEL NO.	KOREA	USA	EUROPE
0	917.3	902.75	865.7	25		915.25	
1	917.9	903.25	866.3	26		915.75	
2	918.5	903.75	866.9	27		916.25	
3	919.1	904.25	867.5	28		916.75	
4	919.7	904.75		29		917.25	
5	920.3	905.25		30		917.75	
6		905.75		31		918.25	
7		906.25		32		918.75	
8		906.75		33		919.25	
9		907.25		34		919.75	
10		907.75		35		920.25	
11		908.25		36		920.75	
12		908.75		37		921.25	
13		909.25		38		921.75	
14		909.75		39		922.25	
15		910.25		40		922.75	
16		910.75		41		923.25	
17		911.25		42		923.75	
18		911.75		43		924.25	
19		912.25		44		924.75	
20		912.75		45		925.25	
21		913.25		46		925.75	
22		913.75		47		926.25	
23		914.25		48		926.75	
24		914.75		49		927.25	

● Mechanical Dimension



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FCC Information to User

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.

Caution : Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

This device 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 technical for help.

End Product Labeling

The module is labeled with its own FCC. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following: "Contains FCC ID: XYD-IDRO900ME-M"

OEM Responsibilities to comply with FCC

The module has been certified for integration into products only by OEM integrators under the following condition:

- The antenna(s) must be installed such that a minimum separation distance of at least 20 cm is maintained between the radiator (antenna) and all persons at all times.
- The module is limited to installation in mobile or fixed applications.
- The transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.
- Separate approval will be required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations other than supplied antennas.

As long as the condition above is met, further transmitter testing will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

In the event that these conditions cannot be met, then the FCC authorizations are no

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longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product including this module and obtaining separate FCC authorizations.

- This device is intended only for OEM integrators
- For OEM integration only - device cannot be sold to general public.
- Manual Information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

This device may only operate using an antenna of a type and maximum (or lesser) gain approved by IDRO. Antenna types not included in the list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this transmitter.

-Note

	Peak Gain (dBi)	Part Name
ANT	5.84	ID261-919