IDRO900ME-L USER' S MANUAL

V23.08.29

August 29 2023





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IDRO Co., Ltd	2023-08-29	V3.08.29

■ Revision history

Version	Revision Date	Revision Page	Revision Description
V1.11.01	2021-11-01		Draft
V2.06.01	2023-06-01	8 page	Reader Specification Update (Red Line)
V3.08.29	2023-08-29		Revised for Certification



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FCC Certification Requirements

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.

Caution

THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Exposure to Radio Frequency Radiation.

To comply with FCC RF exposure compliance requirements, a separation distance of at least 30 cm must be maintained between the antenna of this device and all persons.

Any Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

IMPORTANT NOTE: FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

OEM/integrators Installation Manual

the modules limited to OEM installation only

the OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Instructions to the OEM/integrator

The OEM integrator must include the instructions or statements required by part 15.19 and 15.21 in the user manual.

the OEM integrator must include a separate section in the host user's manual concerning the operating conditions to satisfy RF exposure compliance.

there is requirement that the grantee provide guidance to the host manufacturer for compliance with part 15b requirements.



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This deivice is intended only for OEM integrators under the following conditions:

- (1) This equipment should be installed and operated with a minimum distance of 30 centimeters between the radiator and your body.
- (2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements with this device installed.

This module has been granted modular approval for mobile applications. OEM integrators for host products may use the module in their final products without additional FCC certification if they meet the following conditions. Otherwise, additional FCC approvals must be obtained.

The host product with the module installed must be evaluated for simultaneous transmission requirements.

The user's manual for the host product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC RF exposure guidelines. To comply with FCC regulations limiting both maximum RF output power and human exposure to RF radiation, use this module only with the included onboard antenna.

The final host / module combination may also need to be evaluated against the FCC Part 15B criteria for unintentional radiators in order to be properly authorized for operation as a Part 15 digital device.

These modules are designed to comply with the FCC single modular FCC grant

- End Product Labeling

To satisfy FCC exterior labeling requirements, the following text must be placed on the exterior of the end product. Contains Transmitter module FCC ID: XVY-IDRO900ME-L

- Manual Information to the End User

The OEM integrator is responsible for ensuring the end-user has no manual instruction to remove or install module. The end user manual shall include all required regulatory information/warning as show in this manual.



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1. Introduction & System composition diagram

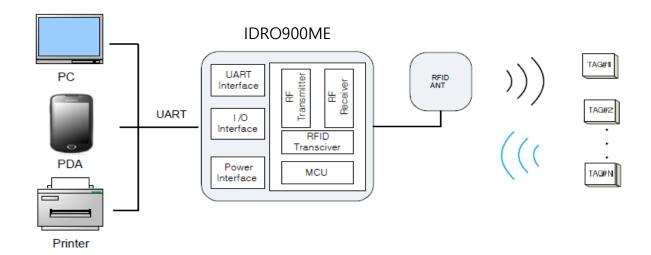
Introduction

- 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





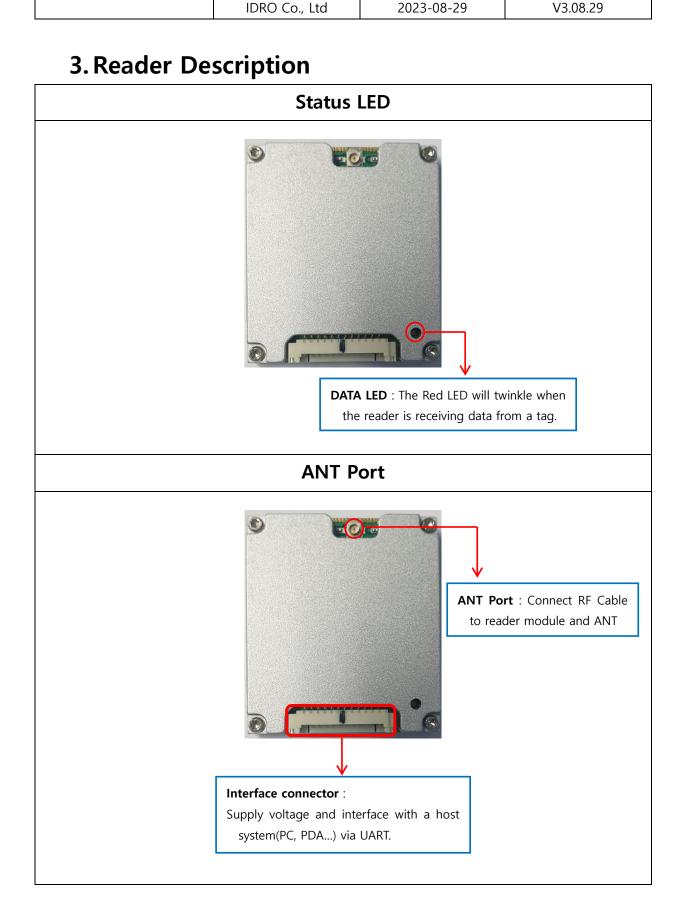
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2. Composition parts

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



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Interface Pin-map



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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	GPIO_1
11	UART_RTS
12	UART_CTS



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4. Reader Specification

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

Value			
IDRO900ME-L			
UHF RFID Reader Module			
EPC Gen2 (ISO 18000-6C)			
917.3MHz to 920.3MHz(Korea)			
860MHz to 930MHz (Customizable)			
30dBm±0.5dBm (1W)			
5dBm to 30dBm (1dB step)			
6 (Korea), 50(USA), 4(EUROPE)			
600KHz (Korea, EUROPE),			
500KHz(USA)			
< 0.4 seconds			
PR-ASK			
3.8 ~ 4.2V (typ. : 4V)			
< 1.6A			
< 10m			
-10℃ to +85℃			
Data			
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	35.8mm × 40.5mm × 7.4mm
Weight	16g



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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	



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Mechanical Dimension

