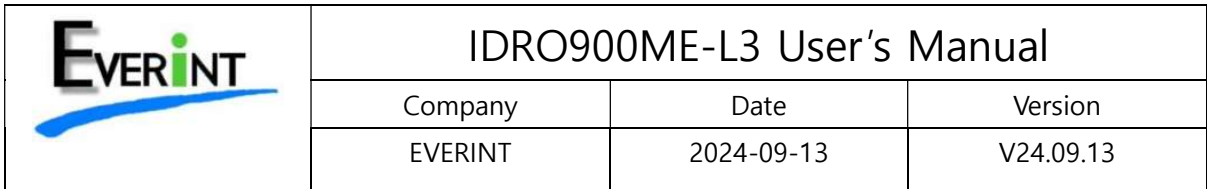


**IDRO900ME-L3
USER' S MANUAL**

V24.09.13

September 13, 2024



■ Revision history

[illegible]

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

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 20 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.

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

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

- (1) This equipment should be installed and operated with a minimum distance of 20 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: 2AKMF-IDRO900ME-L3**

- 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.

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

IC Certification Requirements

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.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Radiation Exposure Statement:

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (AF) Exposure rules as this equipment has very low levels of RF energy. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

RSS-102 RF Exposure

Lantenne (ou les antennes) doit être installée de façon à maintenir à tout instant une distance minimum de au moins 20 cm entre la source de radiation (l'antenne) et toute personne physique.

Cet appareil ne doit pas être installé ou utilisé en conjonction avec une autre antenne ou émetteur.

IMPORTANT NOTE

This device complies with FCC & ICED radiation exposure limits set forth for an uncontrolled environment. This device should be installed and must not be co-located or operating in conjunction with any other antenna or transmitter.

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

- 1) This module may not be co-located with any other transmitters or antennas.
- 2) The antenna must be installed such that 20cm is maintained between the antenna and users.

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 module installed.

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

- 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: 2AKMF-IDRO900ME-L3**

IC: 22266-IDRO900MEL3

- 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.

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

NCC warning statement

根據LP0002低功率射頻器材技術規範_章節3.8.2:

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使

用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

Contents

1. Introduction & System composition diagram	9
● Introduction.....	9
● System composition diagram.....	9
2. Composition parts	10
3. Reader Description	11
4. Reader Specification.....	13
● Reader Performance (KOREA, USA, EUROPE, etc)	13
● Interface.....	13
● Physical Dimension.....	13
● Channel number & Frequency table.....	14
● Mechanical Dimension	15

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

1.Introduction & System composition diagram

● Introduction

- The IDRO900ME-L3 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

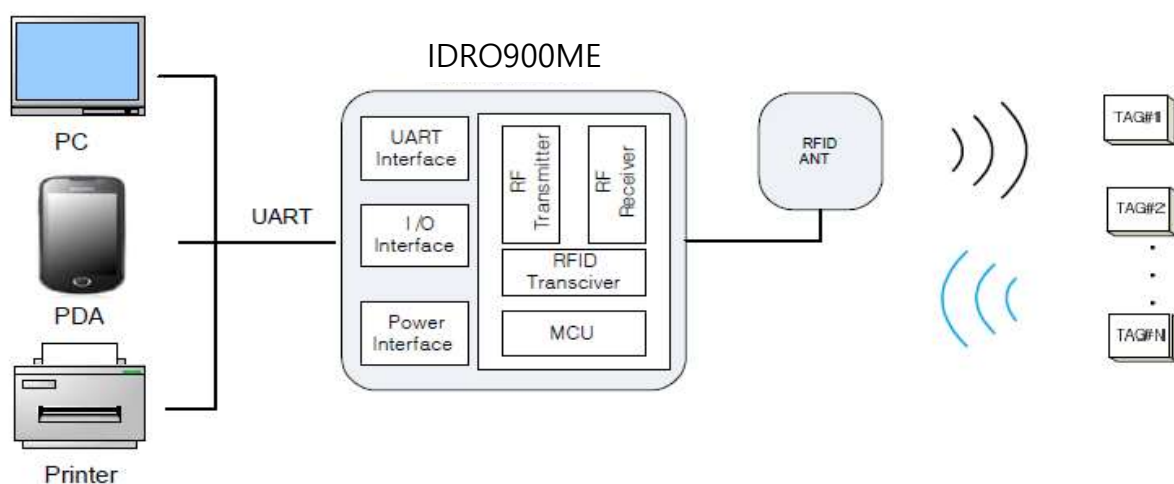
PDA type RFID Reader

RFID Printers / Tag Encoders

USB Readers

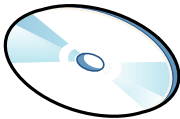
Smart-Shelves

● System composition diagram



	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

2. Composition parts

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

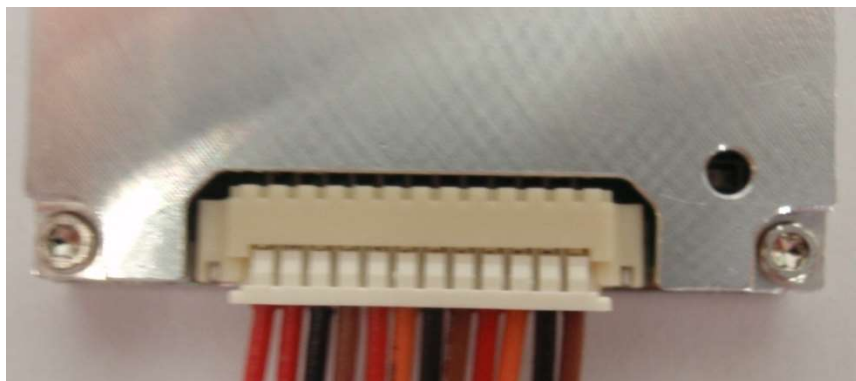
	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

3. Reader Description

Status LED	
	
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.	

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

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	GPIO_1
11	UART_RTS
12	UART_CTS

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

4. Reader Specification

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

Item	Specification
MODEL	IDRO900ME-L3
Architecture	UHF RFID Reader Module
Protocol	EPC Gen2 (ISO 18000-6C)
RF Chipset	IMPINJ E310
Frequency	917.3MHz to 920.3MHz(Korea) 902.75MHz to 927.25MHz(USA) 922.25MHz to 927.25MHz(ROC) 860MHz to 930MHz (Customizable)
Max Tx Power	30dBm±0.5dBm (1W)
Power Control	5dBm to 30dBm (1dB step)
Hopping Channels	6 (Korea), 50(USA), 4(EUROPE), 11(ROC)
Channel Spacing	600KHz (Korea, EUROPE), 500KHz(USA, ROC)
Channel Dwell time	< 0.4 seconds
Modulation Method	PR-ASK
Supply Voltage	3.8 ~ 4.2V (typ. : 4V)
Maximum Current (@ max. power)	< 1.6A
Tag Read Distance (max.)	< 10m
Operating Temperature	-10°C to +85°C
LED Indicators	Supply voltage, Reading the Tag(Blink)
Firmware version	V240529B

● 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

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

● Channel number & Frequency table

Channel No.	KOREA	USA	EUROPE	ROC	Channel No.	USA
0	917.3	902.75	865.7	922.25	25	915.25
1	917.9	903.25	866.3	922.75	26	915.75
2	918.5	903.75	866.9	923.25	27	916.25
3	919.1	904.25	867.5	923.75	28	916.75
4	919.7	904.75		924.25	29	917.25
5	920.3	905.25		924.75	30	917.75
6		905.75		925.25	31	918.25
7		906.25		925.75	32	918.75
8		906.75		926.25	33	919.25
9		907.25		926.75	34	919.75
10		907.75		927.25	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

	IDRO900ME-L3 User's Manual		
	Company	Date	Version
	EVERINT	2024-09-13	V24.09.13

- **Mechanical Dimension**

