IDRO900ME-T3
USER’S MANUAL

V24.08.09

August 09, 2024

■ Revision history

Version	Revision Date	Revision Page	Revision Description
V24.08.09	2024-08-09		Draft

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.

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 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: XVY-IDRO900ME-T3

- 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.

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。

Contents

1. Introduction & System composition diagram

● Introduction

- The IDRO900ME-T33 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**

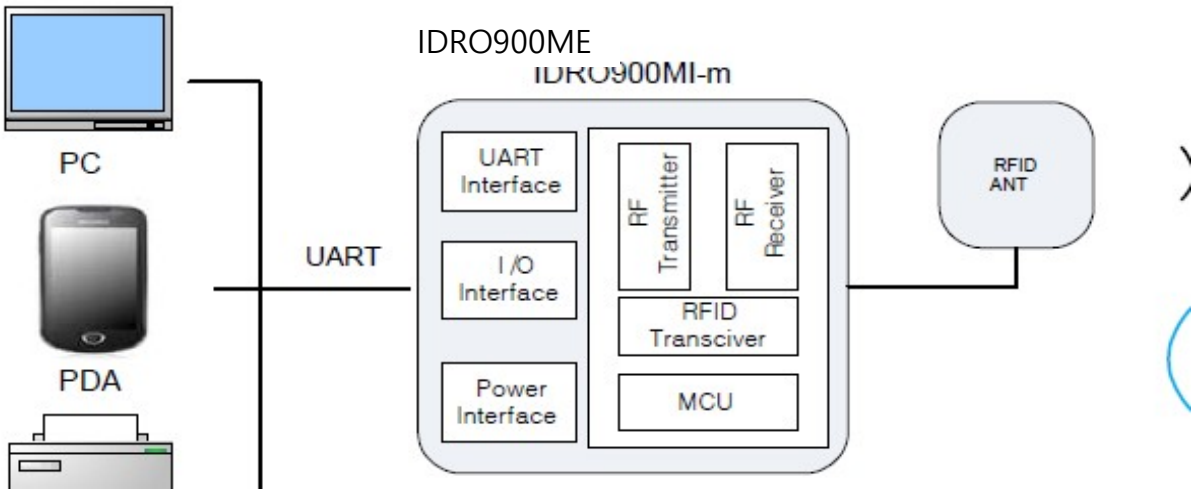
  PDA type RFID Reader

  RFID Printers / Tag Encoders

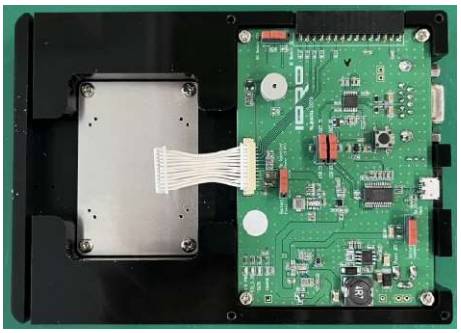
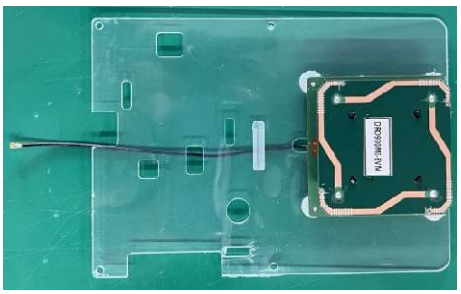
  USB Readers

  Smart-Shelves

● System composition diagram

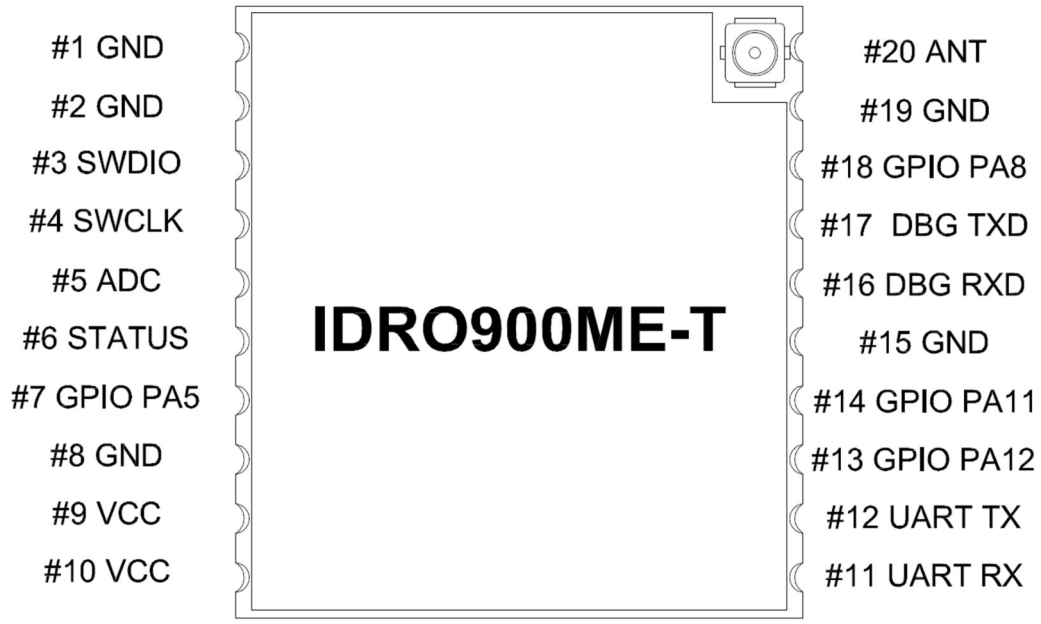


2. Composition parts

RFID Reader module	
Interface Board	
Antenna	

3. Reader Description

Interface Pin-map



4. Reader Specification

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

Item	Specification
MODEL	IDRO900ME-T3
Architecture	UHF RFID Reader Module
Protocol	EPC Gen2 (ISO 18000-6C)
RF Chipset	IMPINJ E310
Frequency	917.3MHz to 920.3MHz(Korea) 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)	< 1.2A
Tag Read Distance (max.)	< 10m
LED Indicators	Supply voltage, Reading the tag(Blink)

● Interface

ANT Connector	Part No. : CMJ-S00 Manufacturer : Giga Lane

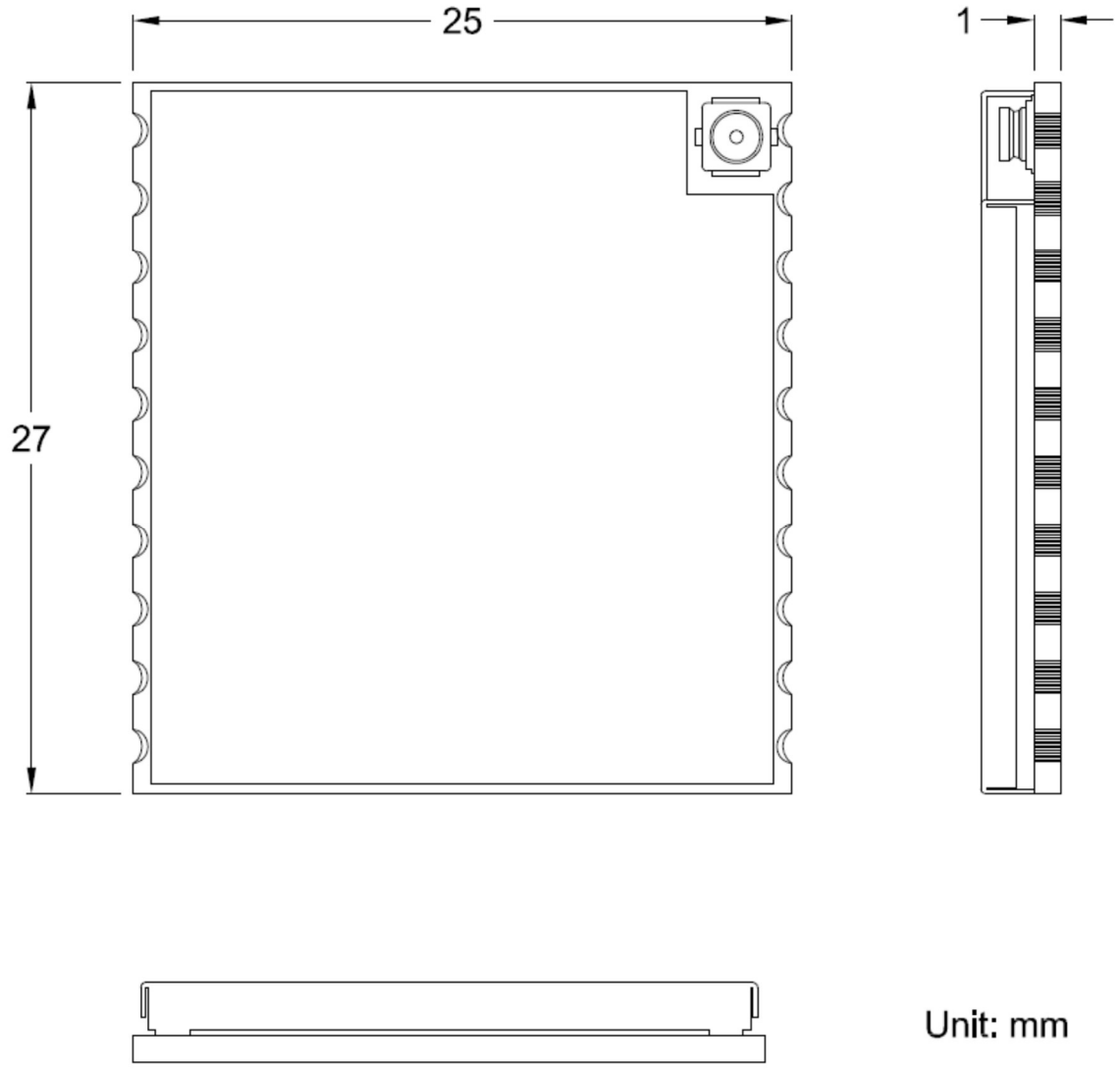
● Physical Dimension

SIZE	25.0mm × 27.0mm × 4.0mm
Weight	3g

● 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

● Mechanical Dimension



- This Module has been tested and should be used with below antennas:

Antenna Type	Peak Gain	Part Name
Patch	6.0 dBi	IDRO260-915
Patch	3.72 dBi	KSA-921A6015B100B
Patch	0.88 dBi	KSA-947A7015B80F
Patch	-0.23 dBiL(= -1.08 dBi)	MPAC34SC920PS-TA
Patch	0.24 dBiL(= -0.61 dBi)	MPAC34SC922SS-TA
Patch	3.06 dBiC(= 0.06 dBi)	MQWA60F55SM915-A
Patch	0.32 dBi	MQWA60F55SM919-A
Patch	0.36 dBi	MQWA70F55SP919-A