RM300 Plus

4-port UHF RFID Reader Module

Impinj E710 / Multiple SDKs / Adjustable output power from 5dBm to 33dBm

RM300 Plus is a high-performance UHF RFID module developed by Unitech based on Impinj E710 chip. It is designed specifically for high-performance UHF RFID reading and writing devices. The RM300 Plus module provides 4 antenna ports and supports up to 33 dBm of radio frequency output. This module is characterized by low power consumption, small size, high sensitivity, and advanced multi-tag algorithms, as well as support for multiple SDKs, making it the preferred choice for UHF RFID reading and writing devices.

With a maximum tag read rate of over 1,000 tags per second and an operating distance of up to 15 meters, the RM300 Plus optimizes read rates and tag detection accuracy. Its compact design makes it ideal for adding UHF RFID read/write/lock/kill capabilities to a wide range of products, including handheld PDAs, label printers, stationary readers, and other UHF RFID applications.

RM300 Plus provides a variety of Software Development Kits (SDKs) compatible with Windows, Linux, and Android platforms. These SDKs empower developers to effortlessly harness the full potential of the RM300 Plus, accelerating the implementation of RFID solutions. With its high-sensitivity chip, excellent read rate, and versatile SDKs support, the RM300 Plus is the perfect solution for embedded RFID applications.

Applications

Mobile reader / Logistic inventory / Warehouse management / Assets tracking / Cargo tracking / Baggage handling / Access control / Large-scale RFID system implement

Features

- Easy to use Starter Kit to shorten product development time
- High sensitivity and optimum chip: Impinj E710
- International operation with global frequency coverage over 865-928 MHz band
- Adjustable transmit output level control from 5 dBm to 33 dBm in 1 dB step
- Maximum tag read rate of over 1,000 tags per second
- Maximum tag read distance of over 15m with 6 dBi antenna
- Seamless integration and development with multiple SDKs (Windows, Linux, Android)
- Easy to use Starter Kit to shorten product development time

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Specifications

UHF RFID Performance / Interface

UHF	FCC (US) 902- 928 MHz, SRRC (China) 920.5 – 924.5 MHz, TELEC (Japan) 916.8 - 923.4 MHz, NCC (Taiwan) 922 - 928 MHz
RFID Chip	Impinj E710
Reading Distance	15m with a 6 dBi antenna
Tag Read Rate	1000+ tags per second
Antenna Ports	Four MMCX antenna connectors
RF Power Output	Adjustable from 5dBm to 33dBm @ ±1 dBm

I/O Interfaces

USB	USB 2.0 Full Speed 12 Mbps
Serial Interface	UART : Baud rates: 9,600 to 115,200 bps, Logic levels: 3.3 / 5 V
Digital IO Interface	5 GPIO pins, Logic levels: 3.3 / 5 V
Connector	50-pin (HRS-DF12 SMT connector)

Durability

Vibration and Shock Test	2000 G ± 5% for a period of 0.85 ± 0.05 msec over three (3) axes (X, Y and Z), two (2) directions per axis at all temperatures

Power Source

Power	5V VDC

Enclosure

Dimension	76.5 x 50 x 2.8 mm
Weight	20 g

Environmental

Operating Temperature	-20°C to 60°C
Storage Temperature	-30°C to 85°C
Relative Humidity	10% ~ 85% Non-condensing
Electrostatic Discharge	Receiver pin ±1kV

Software

Windows SDK, Linux SDK, Android SDK

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