ZS-A7 - Mini Mobile UHF RFID Reader

一、Product Description：

The ZS-A7 is a compact, all-in-one UHF RFID reader/writer. Featuring a lightweight, small-form-factor, and plug-and-play design, it delivers exceptional performance as a reliable, integrated solution. The device is powered by a proprietary UHF RFID chip—developed in-house by Guoxin IoT—and incorporates a single-feed ceramic RFID antenna. This high-performance, highly integrated reader IC combines an analog RF front-end with a baseband digital signal processing module.

Users simply need to provide a power supply and a communication interface (supporting Type-C) to control the module’ s operation via an API library. Regardless of the application scenario, the ZS-A7 is designed to meet your specific requirements. By integrating the RF front-end, controller, and other circuitry into a single compact module, the ZS-A7 facilitates seamless integration into a wide range of devices and systems, enabling a lightweight development process.



二、Product Features：

1. NATION RFID Reader Chip: Based on a proprietary UHF RFID chip developed in-house by NATION RFID, this solution offers high scalability, stable performance, and powerful functionality.

2. Superior RF Performance: Utilizing an optimized RF circuit design and advanced RF signal optimization algorithms, the reader achieves peak RF performance, ensuring reliability even in complex application environments.

3. Multi-Protocol Support: Compatible with a wide range of air-interface protocols, including ISO 18000-6C/6B, the Chinese national standard GB/T 29768-2013, the Chinese military standard GJB 7377, as well as proprietary protocols for temperature and humidity-sensing tags.

4. RSSI Support: The RSSI (Received Signal Strength Indicator) feature provides quantitative data on signal strength, enabling users to evaluate and optimize the quality of RFID communication.

5. Tag Data Filtering: Includes functionality to screen and filter RFID tag data, allowing users to extract the specific information they need based on defined criteria.

6. Applications：

Supported development platforms: Windows, Android, Linux, iOS, HarmonyOS, etc.

Demo applications: Batwrite(Windows), RFID Xiaolingtong (Android) and RFID Xiaolingtong (iOS)

Development SDK provided: multi-language support including C#, C++, Java, Python, Swift and Android

三、Product Specifications:

Appearance and Dimensions	
Product Dimensions	62.5mm × 48.0mm × 9mm
Housing Material	CNC + Engineering plastic
Net Weight	37 g

Performance Parameters	
Operating Frequency	FCC 902–928 MHz (default); GB 920–925 MHz
Air Interface Protocol	ISO 18000-6C/6B (default), GB (customization required), GJB (customization required)
RF Output Power	0–18 dBm adjustable, in 1 dBm steps (1.2W @ 18dBm)
Operating Mode	Automatic frequency hopping / fixed frequency
Forward Modulation	PR-ASK
Decoding Mode	FM0 / Miller 2/4/8 (Miller 4 by default)
Tag Identification Speed	>100 tags/sec
Multi-tag Speed	100 tags / 3 sec
Read Distance	0–0.3 m (varies with configuration and tag type)
Write Distance	0–0.1 m (varies with configuration and tag type)
Antenna Gain	1 dBi

Environmental Characteristics	
Operating Temperature	−40 °C to +85 °C
Storage Temperature	−40 °C to +85 °C
Relative Humidity	10%–95% RH (non-condensing)

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Package Contents	Reader × 1, USB cable (Type-C to Type-C) × 1, USB adapter (Type-C to Type-C) × 1, Product manual × 1
Applicable Standard	ISO 9001 Quality Management System certification
Appearance Requirements	No damage, no deformation, no obvious scratches
Warranty Period	12 months (non-human damage)