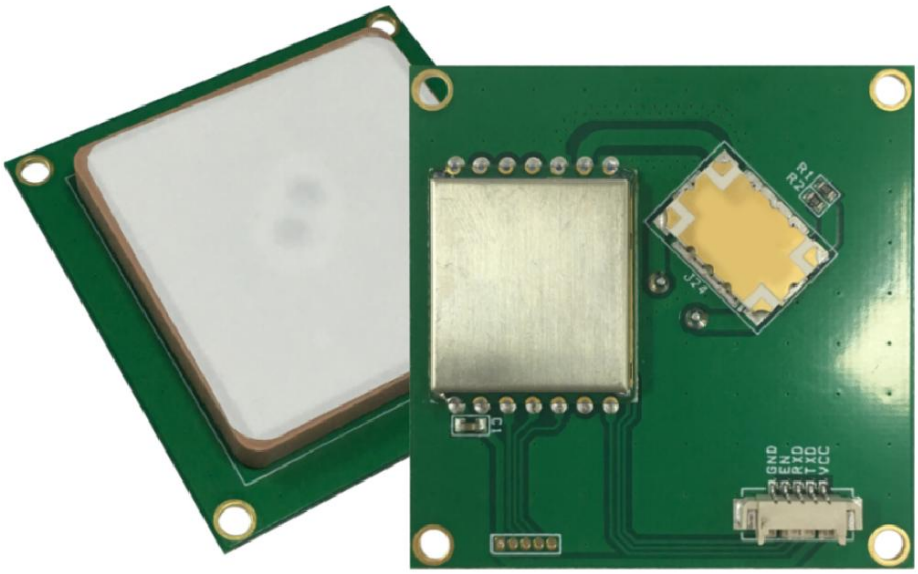
深圳市骏发瑞达智能科技有限公司
Shenzhen Junfa Ruida Intellingent Technology Co., Ltd.

RFID radio module

HR601M Product Specification V2.01



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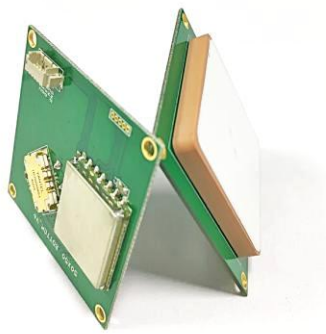
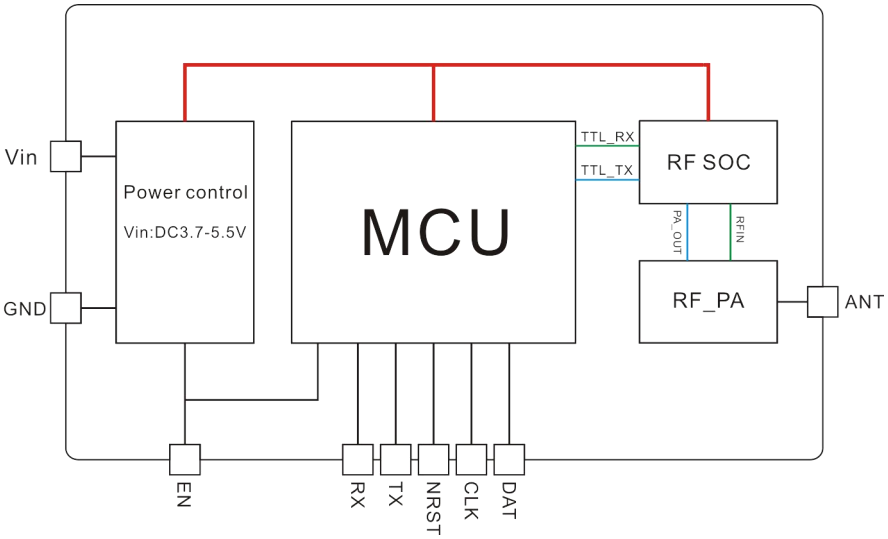
Product introduction

HR601M is an ultra-high frequency reader module with integrated antenna and module. The product has the advantages of low power consumption, universal interface, small size, easy integration, etc., and can be widely used in various manufacturing, supply chain, commercial retail, asset management, warehousing and logistics, access control systems, anti-counterfeiting systems, personnel attendance, handheld terminals and production process, etc.



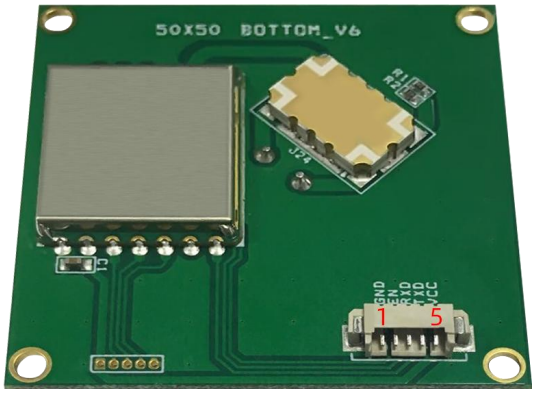
Block Diagram



Product Features

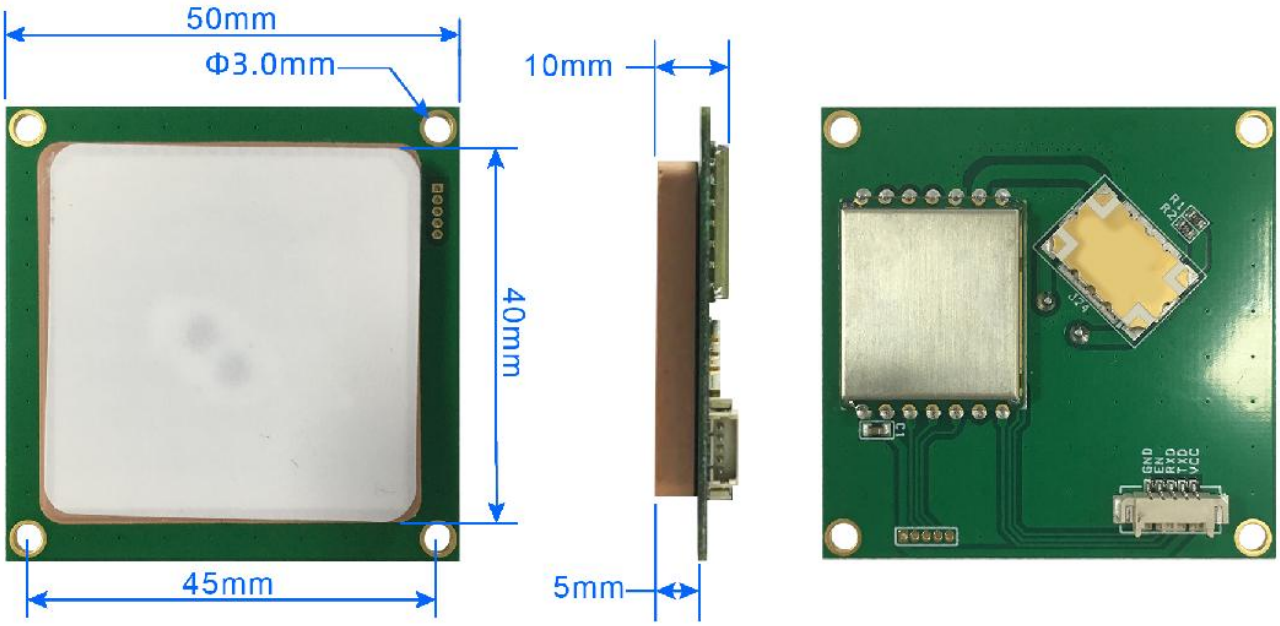
- Support iso18000-6C protocol and GB/T 29768-2013 protocol
- Adopt advanced anti-interference and anti-collision DRM algorithm
- Support label RSSI signal strength value
- Stable reading distance 0~3 M
- Low power design, continuous full load operation without heating
- Small size and easy integration
- Support 7x24h operation without panic
- Support customization of external dimensions

Pin Descriptions



Pin No	Name	Functions
1	GND	Ground
2	EN	High level Enable；Low=0V,High=1.1V to VCC
3	RXD	TTL_RXD，BAUD=115200bps
4	TXD	TTL_TXD，BAUD=115200bps
5	VCC	Supply Input.
FPC connection terminal (5Pin, Pin pitch 1.25mm)		

Package Information



Product Parameters

RF parameters	
Supporting agreement	ISO18000-6C & EPC Class-1 Generation-2 Compatible
Rrequency Range	902~928MHz（US band），865~868MHz（EU band）
Output Power	0~26dBm
Reading Distance	0~3m（related to Tag, environment）
Write Distance	0~1m（related to Tag, environment）
Recognition Speed	>30 pcs / s (related to antenna, Tag and environment)
Interface	
Uart	Standard TTL UART, Baud rate 115200bps
Power	
Supply Input.	DC 3.8~5.5V
Power	Low power consumption 0.85W (typ.)
Current	Standby current: 100uA； Power-on (EN enabled) working current: 30mA； Card reading working current: 170mA
Physical parameters	
Dimension	PCB_MB：50*50mm ANT：40*40mm
Weight	42g
Protection class	IEC IP51
Environmental parameters	
Operating Temperature	-20~+70℃
Operating humidity	-5%RH~95%RH（Non condensing state）
Storage humidity	-10%RH~95%RH（Non condensing state）
Compliance certification	
Certification	Meet China's radio model approval, Meet FCC, CE and other testing standards

Package List

Item	Specification	Quantity	Unit
Module	HR601M	1	pcs
Data Cable	5PIN to 5PIN	1	pcs
SDK	Electronic file (contact sales to request)	1	pcs
Spec	Electronic file (this document)	1	pcs
Warranty Card		1	pcs
*The above quantities only represent the accessories matched with a single device			

FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) thi s device may not cause harmful interference, and (2) this device must accept any interference received, incl uding interference that may cause undesired operation.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursua nt to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful inte rference in a residential installation. This equipment generates uses and can radiate radio frequency energy a nd, if not installed and used in accordance with the instructions, may cause harmful interference to radio com munications. 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 turn ing 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 important announcement

Important Note:

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US.

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

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

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

Important Note:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is 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 the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following" Contains FCC ID: **2A7O9HR601M**"

Manual Information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01

2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

2.4 Limited module procedures

Not applicable

2.5 Trace antenna designs

Not applicable

2.6 RF exposure considerations

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 0cm between the radiator & your body.

2.7 Antennas

This radio transmitter **2A7O9HR601M** has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna No.	Model No. of antenna:	Type of antenna:	Gain of the antenna (Max.)	Frequency range:
RFID	/	Ceramic Antenna	1.91dBi for 902-928MHz;	

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID: 2A7O9HR601M".

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.

ISED Statement

- English: 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, a nd (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

- French: Le présentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareildoit accepter tout brouillageradi oélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.
Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.
Cet équipementdoit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.

ISED Modular Usage Statement

NOTE 1: When the ISED certification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use the
wording ”Contains transmitter module IC: 28732-HR601M” or “Contains IC: 28732-HR601M”.

NOTE 1: Lorsque le numéro de certification ISED n'est pas visible lorsque le module est installé dans un autre appareil, l'extérieur de l'appareil dans lequel le module est installé doit également afficher une étiquette faisant référence au module inclus. Cette étiquetteextérieure peut être libellée Contient le module émetteur IC: 28732-HR601M ou Contient IC: 28732-HR601M.