

Product Description

The XZ-N6801 RF module is a compact UHF RFID reader featuring domestically developed chips. It integrates analog RF front-end and baseband digital signal processing modules. Users can control the module through an API function library by simply providing power and communication interfaces, while its extensive I/O ports enable seamless peripheral device management. With its superior performance, this module is designed to meet diverse application scenarios for user development.

Typical Applications

- Handheld RFID devices
- Embedded RFID devices
- Integrated RFID equipment
- Faxer equipment

Main Features

- UHF RFID read/writers
- Working frequency range: 902.75MHz ~ 927.25MHz
- Port output power: 33dBm
- Power supply: 3.5V ~5V
- Power consumption: 7.5W @ +33dBm
- ISO 18000-6C/E1G2 support
- Decoded: FM0, Miller 2 / 4 / 8
- Read card rate: >300 times/second
- Module dimensions: 56mm x 35.6mm x 3.8mm

1. Module Working Limit Value

Parametric Properties	Numeric Value
Supply voltage (VCC)	+6V
Maximum power output at the port	34dBm
working temperature	-20°C to +70°C
Storage temperature	-40°C to +85°C

2. Universal Power Supply for Modules

VCC = 5V , TA = 25°C

Parameter	Test Condition	Least Value	Representative Value	Crest value	Unit
Service Voltage		+3.5	+4.2	+6	V
Quiescent Current	Turn on the amplifier status			45	mA
Working Current	Output power 27dBm (card reading status)		0.5	0.55	A
	Output power 30dBm (card reading status)		0.8	0.85	A
	Output power 33dBm (card reading status)		1.5	1.7	A
Power Amplifier Efficiency	Output power 33dBm		50		%

3. RF Parameter Performance

VCC = 5V , TA = 25°C

Parameter	Test Condition	Least Value	Representative Value	Crest Value	Unit
Service Frequency		840		960	MHz
Frequency Tolerance				5	PPm
Frequency Stepping	Guo Biao		250		KHz
Output Power		0		33	dBm
Sensitivity	Output power 33dBm		-76		dBm
Step By Step Power Delivery			1		dB
Output Power Flatness	Output power 27dBm	-1	0.5	1	dB
Occupied Bandwidth	Output power 27dBm		100		KHz
Acp	±250 kHz(±1 CH)		-48		dBc
	±500 kHz(±2 CH)		-65		
Vswr	Status of the power amplifier			1.5	
Output Interface Type			MMCX-KE		

4. Module Functions

- Supports all mandatory commands of ISO18000-6C/6B, and can support GB/T29768 and GJB7377.1 protocols at the same time
- Can work at fixed frequency or jump frequency
- Output power is adjustable, adjustment step: 1dB
- Supports automatic idle mode for readers
- Support RSSI: Can sense the strength of the signal
- Supports label data filtering
- Support collision avoidance protocol
- Support multi-label recognition
- MMCX antenna port output

5. Module Performance

- service frequency

FCC: 902.75MHz ~ 927.25MHz

- RF port output power: 33dBm±1dB
- Working mode: fixed frequency or jump frequency optional
- Forward modulation: PR-ASK, DSB-ASK
- Decoded: FM0, Miller 2 / 4 / 8
- Baseband rates: 40k, 160k, 320k, 400k
- Continuous tag reading distance (EPC code reading): 0-15 meters, 100 consecutive reads with success rate>95% (no interference environment). **Test conditions: 8dBi line polarized antenna, RF cable insertion loss <1dB, standard tags (sensitivity better than-18dBm)**
- Continuous write label distance (write EPC code): 0 ~ 8 meters, continuous write 100 times the success rate is more than 90%.

Test conditions: 8dBi line polarized antenna, RF connection cable insertion loss less than 1dB, standard label (sensitivity better than-18dBm)

- Read card rate:> 300 times per second (single tag)
- Multi-tag processing capability: 300/3 seconds

6. Output Interface Definition

6.1 FPC AUI

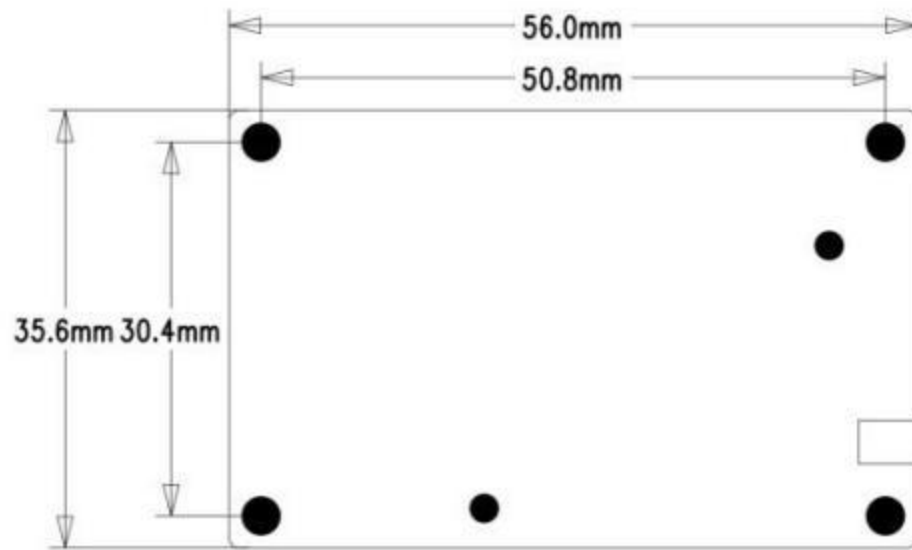
The communication and control of the RF board can be realized by connecting an external 12PIN FPC cable.

FPC connector interface definition

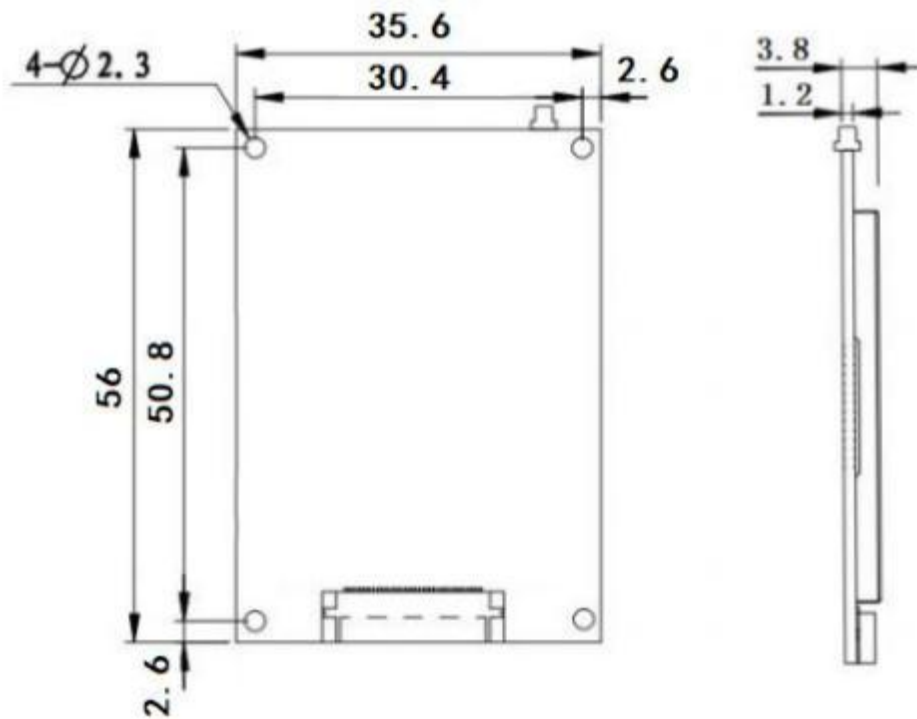
PIN foot	Definition	Description
1	VDD	Power supply positive input (DC3.5-5V)
2	VDD	Power supply positive input (DC3.5-5V)
3	GND	Powering up
4	GND	Powering up
5	EN	Power enable (high level enabled by default)
6	GPIO1	Module input/output 1
7	GPIO2	Module input/output 2
8	GPIO3	Module input/output 3
9	UART_RXD	UART TTL level (3.3V)
10	UART_TXD	UART TTL level (3.3V)
11	RST	Chip reset (low level effective)
12	GPIO4	Module input/output 4

7 External Dimensions

7.1 Boarding Chart



7.2 Assumption Diagram



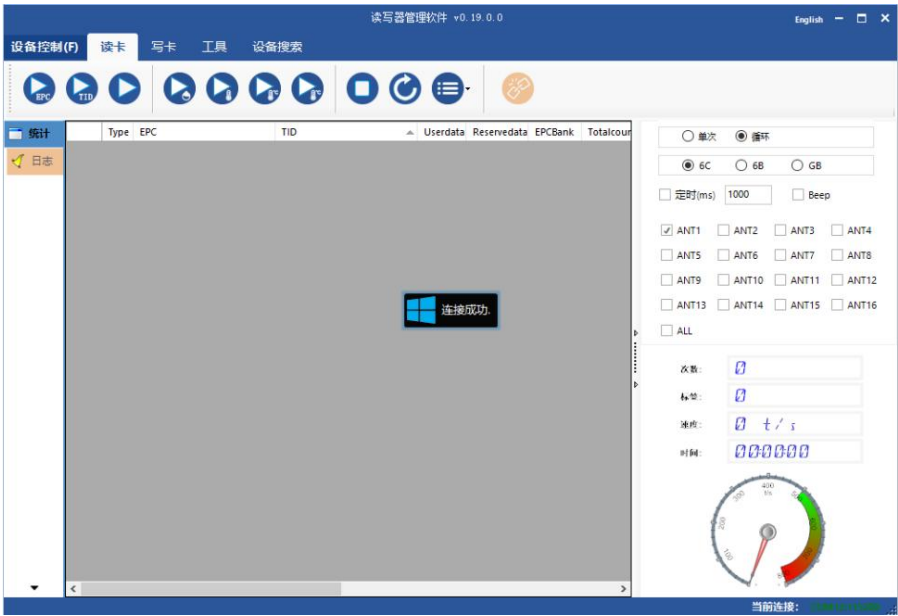
8. Installation

1. Connect the hardware, then connect the hardware to the power supply.

2. Double-click to open "GReaderTool.exe". If all icons in the main interface toolbar are grayed out, it indicates the reader is not connected. In the "Device Connection" option list, select the communication mode as "RS232 Connection", choose "COM?" (select the PC's COM port number used) for "Connection Parameters", and set the communication rate to "115200" (default value). Click the "OK" button as shown in the figure.



3. If the connection is successfully established, all icons in the toolbar will become active and usable, as shown in the figure, indicating a successful serial port connection.



9. Warning

■ FCC Statement

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.

Any 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, 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.

FCC Radiation Exposure Statement

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the FCC identification 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 wording such as the following:

“Contains Transmitter Module FCC ID:2BLOA-XZ-N6801 Or Contains FCC ID: 2BLOA-XZ-N6801”

When the module is installed inside another device, the user manual of the host must contain below warning statements;

1. 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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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

1. The module is limited to OEM installation ONLY

2. The OEM integrators is responsible for ensuring that the end-user has no manual instructions to remove or install module

3. The module is limited to installation in mobile or fixed applications, according to Part 2.1091(b)

4. The separate approval is required for all other operating configurations, including portable configurations with respect to configurations

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

Any company of the host device which install this modular with Single modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C : 15.249 requirement, Only if the test result comply with FCC part 15C : 15.249 requirement, then the host can be sold legally.

Antenna Type: Ceramic Antenna