

Wireless Module

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Product Description

The Lora RF module R100H offered by NETVOX is low power consumption transceiver based on the SX1276 chip LoRa™ solution.

The R100H is designed to be SMD-mounted onto a host PCB. SMD-mounting provides the best RF performance at the lowest cost. Additionally the R100H is designed to occupy minimal board space on the host PCB, which already includes plentiful interfacing ports and power management circuits. So it can be easily integrated into other device without the need for RF experience and expertise.

Applications

- Automated Meter Reading
- Home and Building Automation
- Wireless Alarm and Security Systems
- Industrial Monitoring and Control
- Long range Irrigation Systems

Key Features

- High performance and low power 32-bit ARM Cortex-M0 microprocessor
- Powerful and flexible development tools available

Electric Specifications

Performance

Antenna Type:	FPC antenna
Antenna Gain:	0.98dBi
Frequency Band	902MHZ ~ 928MHz
Mode of emission	LoRa/FSK
Receiver Sensitivity	-121dBm (Frequency deviation=5kHz, Bit Rate=1.2kb/s)

DC Characteristics

Support Voltage	2xAAA battery ,3 V DC
RX Current	11mA (typical value)
TX Current	120mA (typical value)
Normal Current (no Radio)	2mA (typical value)
Deep Sleep (including internal RC oscillator)	8uA

Absolute Maximum Ratings

Parameter	Min	Max	Unit
Supply voltage	-0.5	3	V
Voltage on any pin	-0.3	VCC+0.3	V
Frequency stability			ppm
RF Input Power		10	dBm
Storage temperature	-55	115	°C
Operating temperature	-20	85	°C



Caution !

ESD sensitive device.

Precaution should be used when handling the device in order to prevent permanent damage.

Block diagram

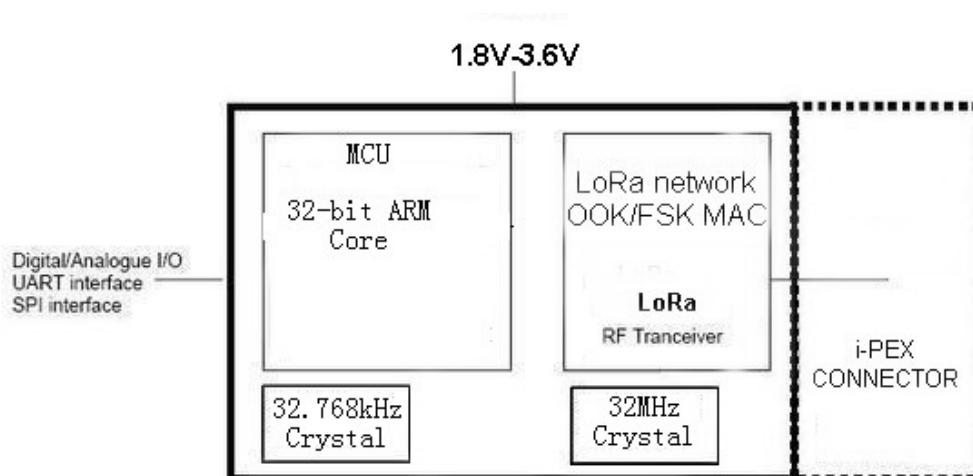


Figure 2 Block diagram

Pin Assignment

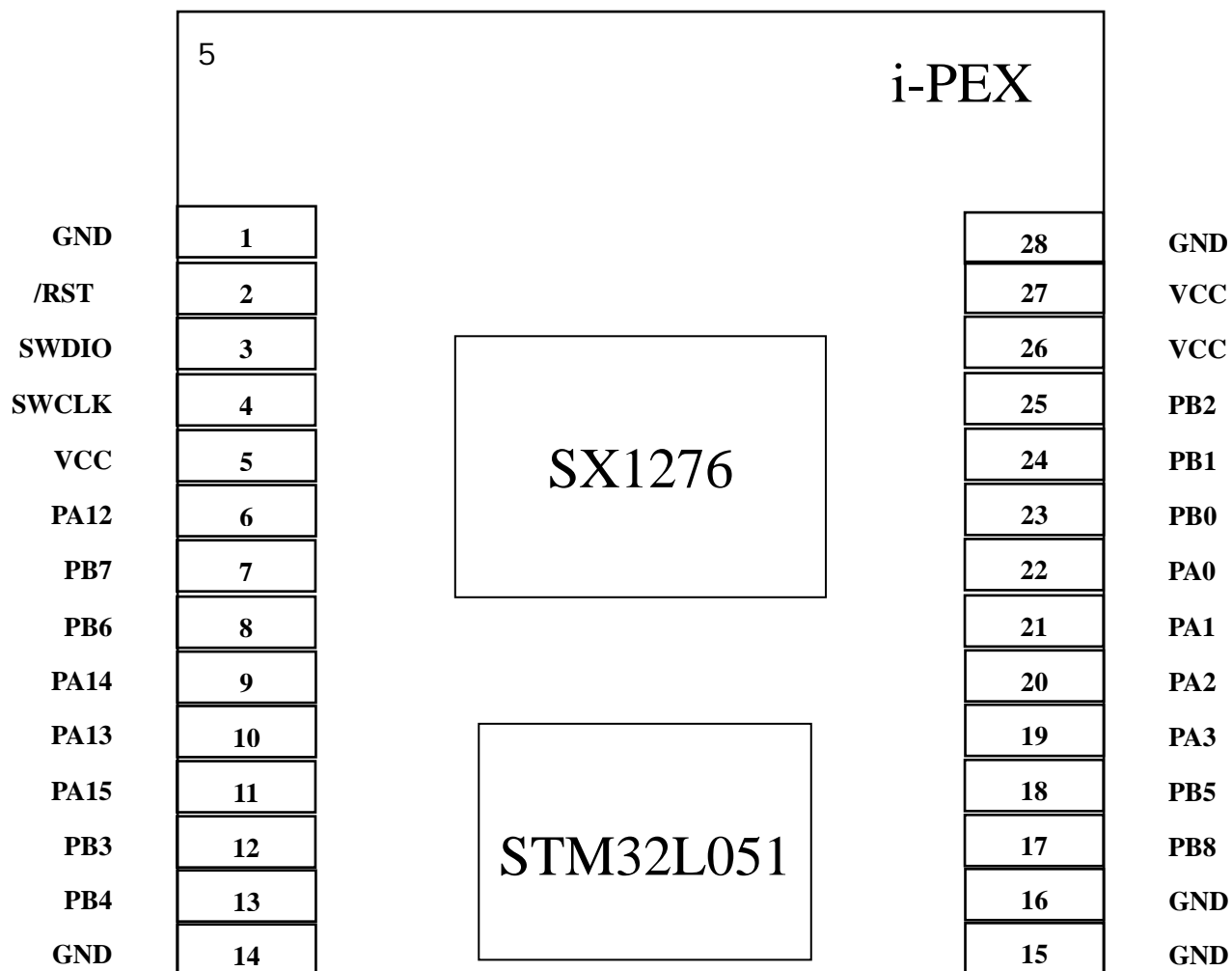


Figure 3 Pin assignment

IC Statement:

This device complies with Industry Canada's licence - exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The module IC number is not visible when installed in the host, or if the host is marketed so that end users do not have straight forward commonly used methods for access to remove the module so that the IC number of the module is visible; then an additional permanent label referring to the enclosed module: Contains Transmitter Module IC number: 8984A-R100H or Contains IC number: 8984A-R100H must be used.

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. 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.

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

The module FCC ID is not visible when installed in the host, or if the host is marketed so that end users do not have straight forward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module: Contains Transmitter Module FCC ID: NRH-LR-R100H or Contains FCC ID: NRH-LR-R100H must be used.