iRZ

Wireless solutions
for M2M world

USER GUIDE
Wi-Fi router
iRZ RL11w

Table of Contents

Tables

Figures

1. Introduction

1.1.   About the Document

This document is intended for advanced users and contains the description of the RL11w router.

Document version		Issue date	
1.1.		25/07/2014	
Prepared by:	D. Koroban, V. Golovin	**Checked by:**	D. Koroban

2. Device Overview

2.1. Assignment

The **iRZ RL11w** routers are compact-size Wi-Fi routers designed to operate in 3G/4G networks. They provide high-speed wireless Internet connection (50/50 Mbps). The routers' key feature of this series is an automatic switching between wired and wireless connections. In addition, the routers have a 802.11b/g 1T1R WiFi radio path embedded into the processing unit.

The core of the device is the MIPS-based processor featuring high performance at low power consumption. The router is controlled by Linux OS that provides high efficiency and smooth operation. The software platform adds functionality to the router by the user scripts.

2.2. Application Fields

The routers of this series are applied for high-speed wireless or wired connection of vending terminals or ATMs to the control centre, a head office to the remote affiliated branches, industrial equipment units, security and surveillance systems, monitoring and control systems and other systems requiring flexible attachment interface.

The key features provided by the routers:

- Automatic APN detection;
- Configuring NAT to access network internal resources from the outside;
- Server and client of the precise time service;
- Operations, administration and management via web-interface
- MAC filter for limiting Wi-Fi access;
- DHCP Server;
- Firewall.

The set of features is subject to extend on the basis of the internal software improvements.

2.3. Technical Specifications

Table 2.1. Key features

Type	Specifications
Hardware Specifications	
processing unit	MIPS 24KEc 360 MHz
dynamic RAM	32 MB
Flash-memory size	8 MB
Ethernet connector	2 × Ethernet 10/100 Mbit
Wi-Fi	2.4 GHz 802.11b/g 1T1R MAC
Supported standards	
	LTE; HSPA+; HSUPA; HSDPA; UMTS; EDGE; GPRS;
Power Supply	
Supply voltage	8 to 30 V
Current consumption	at power voltage 12 V - 800mA
	at power voltage 24 V - 400mA
Physical Specifications	
Housing material	plastic
Dimensions	91 x 86 x 35 mm
Weight	Weight: max 150 g
Operating temperature	-20°C to +65°C

2.4. Package Contents

Table 2.2. Package contents

Name
Router iRZ RL11w
Original package

Table 2.3. Recommended additional accessories

Name
Power unit of 1000 mA, Micro-Fit connector
GSM SMA antenna
Wi-Fi RP-SMA antenna
Ethernet cable

2.5. Storage and Service Requirements

Keep the device in a dry, water-protected place. Eliminate the risk of static stress (lightning, household statics).

Ingress Protection complies with IP20 GOST 14254-96.

Acceptable vibration:

The device can maintain strength properties when exposed to mechanical stress complying with the 15th severity level of sinusoidal vibration specified in GOST 30631-99: in operating equipment, in the equipment installed in tractors, tracklaying vehicles, and water transport (speed-boats, hydrofoil craft, etc.), as well as in processing equipment and land transport if the vibration frequency exceeds 80 Hz.

The router does contain any anti-vibration parts.

2.6. Safety Instructions

Restrictions on the router use near other electronic devices:

- Power off the router in medical centres and keep it away from medical equipment (for example, cardiac pacemakers, hearing aids). It may cause interference to the medical equipment.

- Power off the router in aircraft, take measures against accidental switch-on;

- Power off the router near gas stations, enterprises of chemical industry, in areas where blasting operations are in progress. The device may cause interference to technical equipment, at close range the router can interfere with television and radioreceiver operation.

Protect the router from exposure to dust and moisture.

Observe the acceptable power and vibration standards in a place of the device installation.
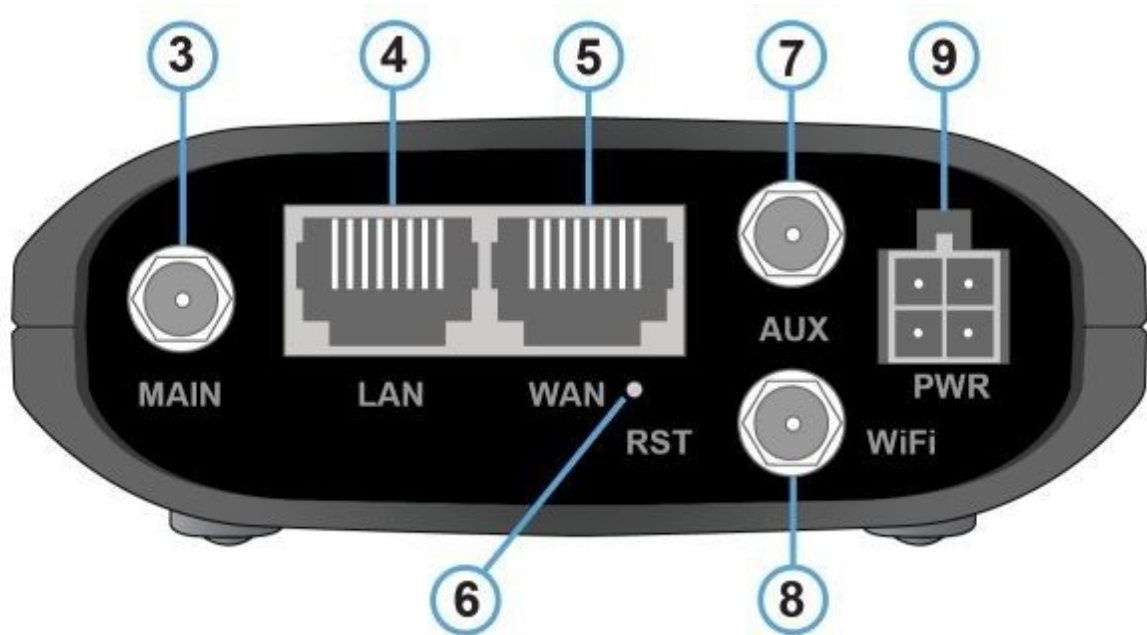
3. Device View and Interfaces

3.1. Device View

The device is packaged in a compact plastic case.
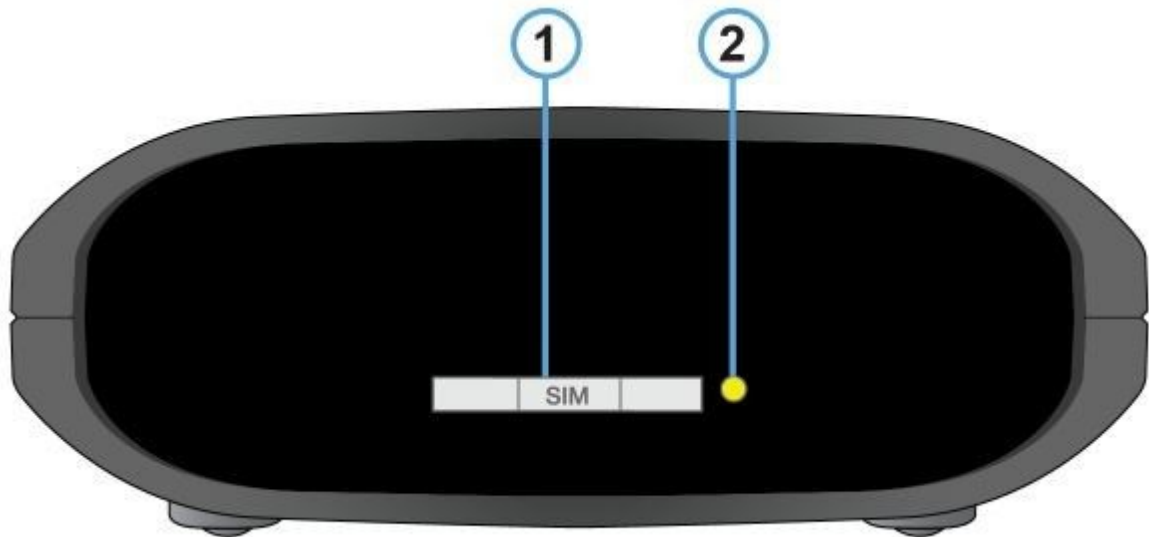
Fig. 3.1. Front panel

Numbers in figure 3.1 show:

    1. SIM card tray;

    2. Eject button for SIM card tray;

Fig. 3.2. Back panel

Numbers in figure 3.2 show:

3. SMA antenna connector for connection of the main GSM antenna;

4. LAN network connector;

5. WAN network connector;

6. Reset button;

7. Additional SMA antenna connector for connection of the optional GSM antenna;

8. SMA antenna connector for connection of the Wi-Fi antenna;

9. Molex Micro-Fit 4 power connector

3.2. Interfaces

Power supply

Power interface is implemented by the Molex Micro-Fit connector providing power to the router from the DC power supply. Supply voltage range is 8 to 30V. The device power consumption is not exceeding 800 mA at 12V DC, and not exceeding 400 mA at 24V DC.

Ethernet

Ethernet interface is designed to configure the router and monitor its state as well as to provide access to the Internet for one or more users. Two ports of 10/100 Mb are available.

SIM interface

SIM interface is designed for SIM cards installation into the router. It is made in the form of a SIM card holder to ensure high-stability connection with cellular operators, and/or scheduled operation.

Before supplying power, install the SIM card into the router. For this you need to:

- Remove the SIM tray pressing the SIM tray eject button using a long slender object (an unbend paper-clip, toothpick, etc.);
- Place the SIM card on the tray;
- Insert the SIM tray and SIM card into the router so that the edges of the SIM tray fit the holder's groove.

Reset button

The **Reset** button is placed near the power connector and designed to reset the device to factory defaults. If the access to the router fails due to incorrect settings or forgotten password, you can reset it to the factory defaults by pressing and holding down the **Reset** button for 10 seconds. In this case all the indicators light up red in turns at an interval of 1 second. If you press and hold down the **Reset** button, for example, only for 5 seconds, the router will restart without resetting.

MAIN SMA connector

SMA connector is used to connect the main antenna to the router.

AUXSMA connector

SMA connector is used to connect the additional antenna to the router.

Wi-Fi SMA connector

SMA connector is used to connect the Wi-Fi antenna to the router.

3.3. Router Indicators

The router indicators are placed at the top of the housing.

Table 3.1. Router indicators

LED	Status	Assignment
Indicators of device operation		
PWR	■ (green) Solid on	Power is supplied or normal operation
	■ (red) Solid on	Loading
	■ (red) Blinking	Wi-Fi on
LAN	■ (green) Solid on	Connection is established
	■ (green) Blinking	Transmitting data over local network
WAN	■ (green) Solid on	Connection is established
	■ (green) Blinking	Transmitting data over local network
Indicators of signal quality		
Signal (Off)		The modem is not ready
Signal (red)		Poor coverage, 2G
		Moderate coverage, 2G
		Excellent coverage, 2G
Signal (green)		Poor coverage, 3G/4G
		Moderate coverage, 3G/4G
		Excellent coverage, 3G/4G

4. Contacts and Support

To obtain a new firmware, documentation and companion software versions, please apply at the following contacts:

St. Petersburg	
The company's website:	www.radiofid.ru
Phone number in St. Petersburg:	+7 (812) 318 18 19
E-mail:	support@radiofid.ru
Moscow	
The company's website:	www.digitalangel.ru
Phone number in Moscow:	+7 (495) 974 74 22
E-mail:	info@digitalangel.ru

Our specialists are always ready to answer your questions, assist in installation or configuration, and solve problems regarding the equipment operation.

In case of a problem with the router, specify the software version to the support service. Besides, it is recommended to attach a log of problem services, screenshots of settings, and any other useful information to a letter. The more information you will provide to a specialist, the more immediate solution to your problem you will get.

> **Note:** Before applying to the technical support it is required to update your router firmware up to a current version.

> **Important!** The end user shall have no coverage or benefits under the warranty if the product has been subject to abnormal use and storage.