
Embedded UHF Module M950



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Safety Instructions / Warning - Read before start-up!

- The device may only be used for the intended purpose designed by the manufacturer. The operation manual should be conveniently kept available at all times for each user.
- Unauthorized changes and the use of spare parts and additional devices that have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.

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- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
 - Repairs may be executed by the manufacturer only.
 - Only qualified personnel should carry out installation, operation, and maintenance procedures.
 - Use of the device and its installation must be in accordance with national legal requirements and local electrical codes.
 - When working on devices the valid safety regulations must be observed.

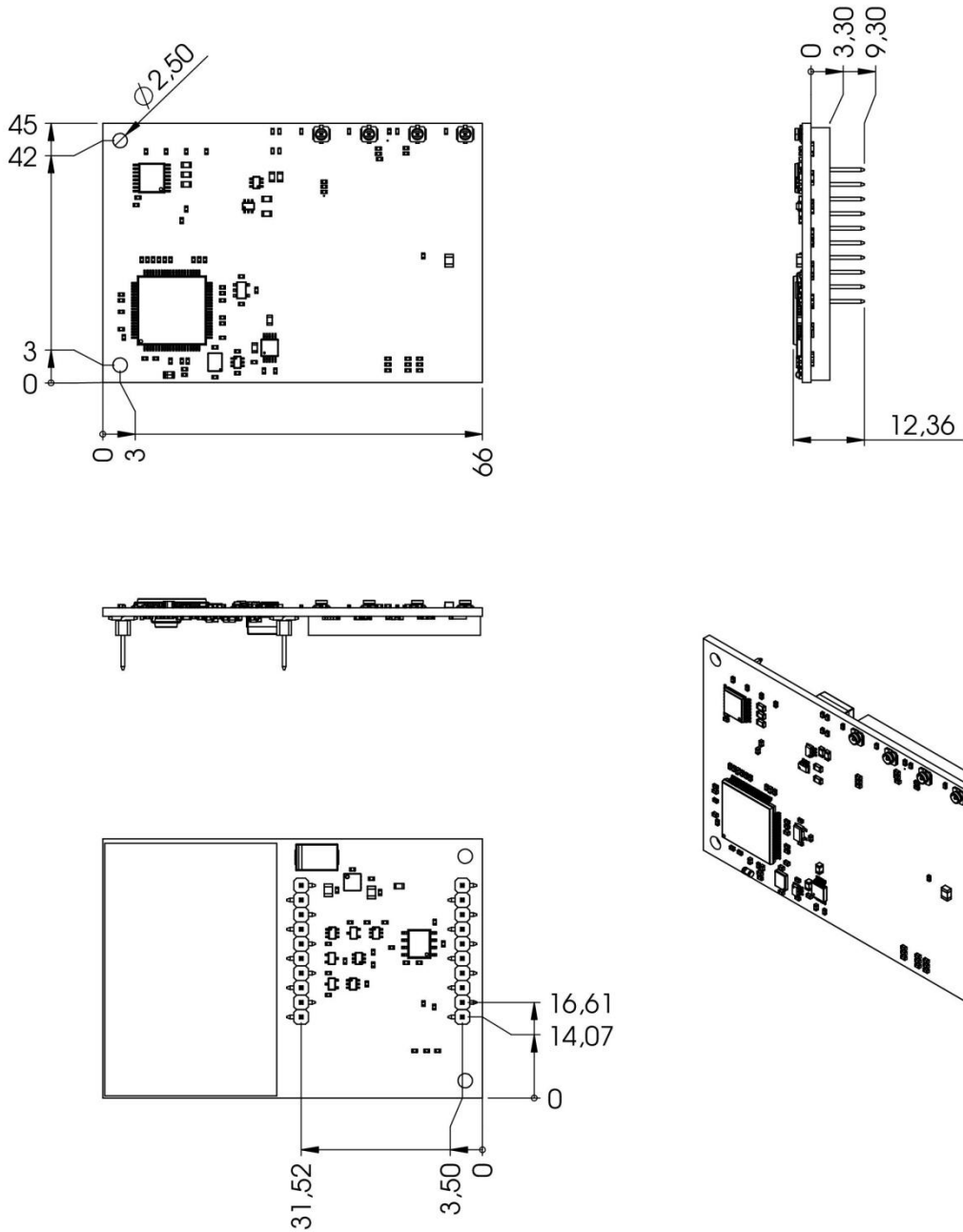
1 Introduction

The **Embedded UHF Module M950** module, hereinafter named **M950**, is a little (dimensions 66.00 x 45.00 x 6.50 mm) read/write RFID device for industrial application and is suitable to be integrated in equipments that require 902.75 MHz – 927.25 MHz RFID technology. The **M950** module communicates with a 'host' system (typically the equipment in which it is integrated) through a RS232 serial line (item 1051U) or a CMOS/TTL serial line (item 1041U) and acts as a joint through a set of commands between the host system and a RFID tag present near the antenna. A 'master/slave' protocol is used for the communication between the 'host' system and the **M950** module. Through the serial line, it is also possible to configure the functional parameters and to upgrade the firmware, the 'BLUEBOX Show' program of the SDK is foreseen to explicate these operations. Furthermore, the **M950** module is able to handle two digital I/O. The **M950** module is furnished without the antenna that must be arranged by the user. The connections are available on two rows of twelve solder pins (pitch 2.54 mm). The **M950** integrates an antenna matching network and an auto-tuning procedure which allows to improve its performances with different antennas in different environments.

The **M950** module is available in two versions that are characterised by the electrical characteristics of the serial line, as depicted in the following table:

Ordering Code	Communication Interface
1041U	RS232-TTL
1051U	RS232

2 Mechanical View (in mm)



¹ Reading distance depends on transponder type, antenna and environmental conditions.

FCC Requirement

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.

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

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden.

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: S6A-M950 Or Contains FCC ID: S6A-M950"

when the module is installed inside another device, the user manual of this device 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.

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.

Antenna information

Manufacturer: Shenzhen ARuiShi Technology Co. Ltd.
M/N:C-10M
Antenna gain: 3dBi