

TWN4 MULTITECH LEGIC M

INTEGRATION MANUAL



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1 INTRODUCTION

1.1 ABOUT THIS MANUAL

This integration manual explains how to integrate ELATEC RFID reader module TWN4 MultiTech LEGIC M into a host device and is mainly intended for integrators and host manufacturers.

The content of this integration manual is subject to changes without prior notice and printed versions might be obsolete. Integrators and host manufacturers are required to use the latest version of this integration manual.

For the sake of better understanding and readability, this manual might contain exemplary pictures, drawings and other illustrations. Depending on your product configuration, these pictures might differ from the actual design of your product.

1.2 ABOUT TWN4 MULTITECH LEGIC M

The RFID reader/writer module TWN4 MultiTech LEGIC M is a device for reading and writing RFID transponders. Different versions of TWN4 devices are available, which cover a large range of transponder types both in the frequency range of 125 kHz and 13.56 MHz.

1.3 ELATEC SUPPORT

In case of any technical questions, refer to the ELATEC website (www.elatec.com) or contact ELATEC technical support at:

support-rfid@elatec.com

1.4 REVISION HISTORY

VERSION	CHANGE DESCRIPTION	EDITION
01	First edition	07/2021

2 SAFETY INFORMATION

- ELATEC TWN4 MultiTech LEGIC M is an electronic component and should be installed exclusively by a trained and qualified personnel.
- ELATEC recommends the integrators to follow general ESD protective measures during the installation of TWN4 MultiTech LEGIC M into a host device, e.g. the use of an antistatic wristband or special gloves.
- The integrator should not touch the antennas (if not shielded), printed circuit boards, connectors or other sensitive components on TWN4 MultiTech LEGIC M.
- Before installing TWN4 MultiTech LEGIC M into a host device, the integrator should also make sure that he/she has read and understood the ELATEC technical documentation related to TWN4 MultiTech LEGIC M, as well as the technical documentation related to the host device. In particular, the instructions and safety information given in the user manual of TWN4 MultiTech LEGIC M should be read carefully and listed in the technical documentation of the host manufacturer as well, as soon as these instructions and safety information are required for a safe and proper use of the host device containing TWN4 MultiTech LEGIC M.

3 INTEGRATION INSTRUCTIONS

3.1 GENERAL

TWN4 MultiTech LEGIC M may be installed in any host devices, as long as it is operated under the operational conditions stated in the user manual and other technical documents (e.g. data sheet). TWN4 MultiTech LEGIC M is equipped with two integrated antennas. Thus, no antenna installation is required.

3.2 LIST OF APPLICABLE RULES

Refer to the approval certificates, grants and declarations of conformity issued for TWN4 MultiTech LEGIC M, and to Chapter "Compliance Statements" for a detailed list of the rules applicable to TWN4 MultiTech LEGIC M.

3.3 SPECIFIC OPERATIONAL USE CONDITIONS

There are no specific operational use conditions for TWN4 MultiTech LEGIC M other than the conditions mentioned in the user manual and data sheet of TWN4 MultiTech LEGIC M. The host manufacturer or integrator must ensure that these use conditions comply with the use conditions of the host device. In addition, these use conditions must be stated in the user manual of the host device.

3.4 LIMITED MODULE PROCEDURES

n/a

3.5 TRACE ANTENNA DESIGN

n/a

3.6 RF EXPOSURE CONSIDERATIONS

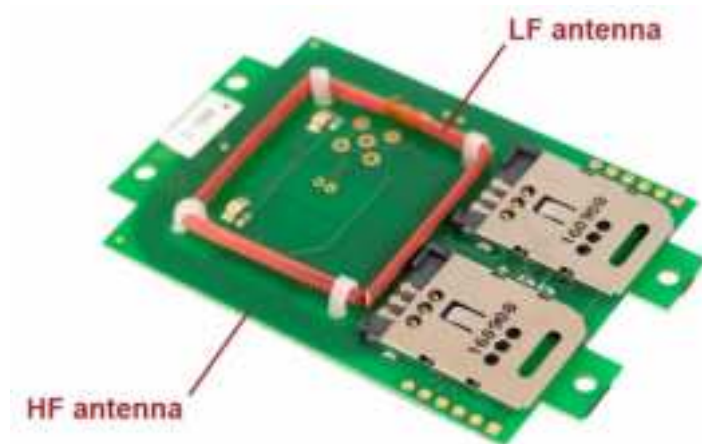
The module antenna(s) must be installed to meet the RF exposure compliance separation distance of 0 cm and any additional testing and authorization process as required.

Refer to Chapter "Compliance Statements" for detailed information about the radio frequency exposure conditions applicable to TWN4 MultiTech LEGIC M.

These RF exposure conditions must be stated in the end-product manual(s) of the host product manufacturer.

3.7 ANTENNAS

TWN4 MultiTech LEGIC M is equipped with the following antennas:



TWN4 MultiTech LEGIC M

HF antenna (13.56 MHz)

Dimensions: 44 x 46 mm / 1.73 x 1.81 inch
Number of turns: 3

LF antenna (125 kHz)

Dimensions: 29 x 32 mm / 1.14 x 1.26 inch
Number of turns: 164

For more information, refer to the related product data sheet or other relevant technical documents.

3.8 LABEL AND COMPLIANCE INFORMATION

Refer to Chapters “Compliance Statements” and “Integrator and Host Requirements” for detailed label and compliance information.

3.9 TEST MODES AND ADDITIONAL TESTING REQUIREMENTS

No specific testing method has been defined by ELATEC for TWN4 MultiTech LEGIC M.

TWN4 MultiTech LEGIC M has been tested and found in compliance with the specifications noted on the approval certificates and other relevant approval documents. However, the integrator is still responsible for any additional testing and authorization process required for the end product.

3.10 MECHANICAL INSTALLATION

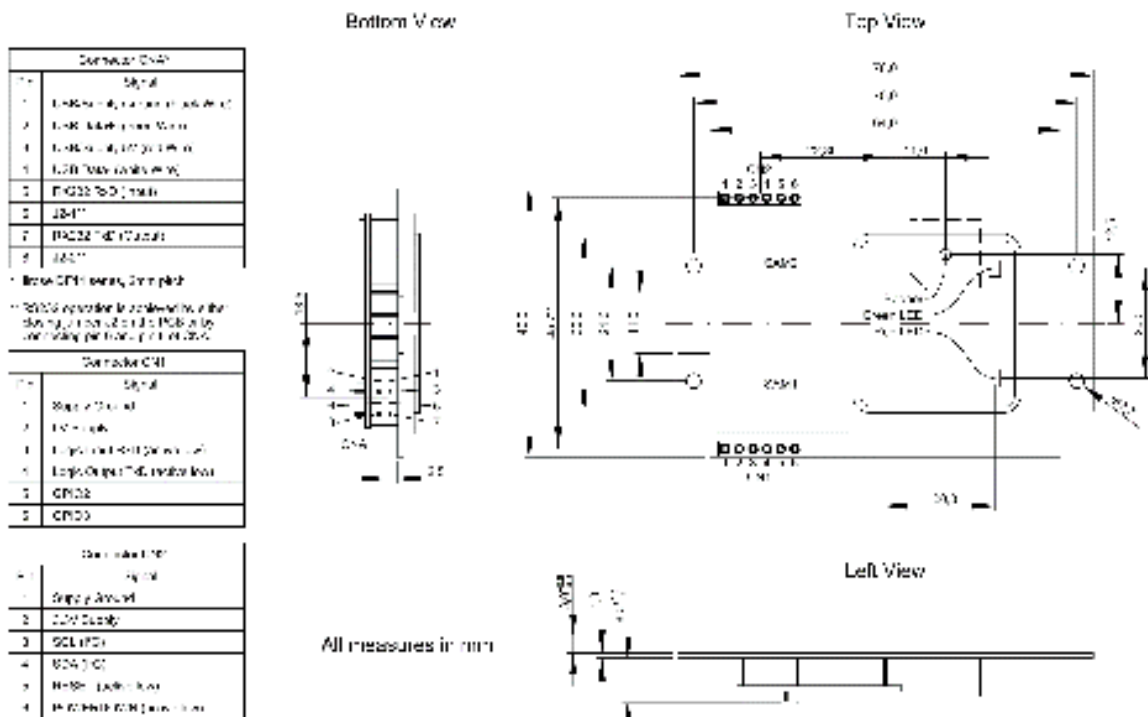


Fig. 1 - Dimensions and pinout of TWN4 MultiTech LEGIC M

There are 4 holes for mechanical fixation of the board (see Fig. 1).

3.11 ELECTRICAL CONNECTION

The module can be connected via USB, RS-232 and other interfaces (see Fig. 1).

The input voltage is 4.3V to 5.5V.

3.12 PROGRAMMATION/SOFTWARE INTEGRATION

n/a

4 COMPLIANCE STATEMENTS

4.1 EU

TWN4 MultiTech LEGIC M is in compliance with the EU directives and regulations as listed in the respective declaration of conformity.

4.2 UNITED KINGDOM

TWN4 MultiTech LEGIC M complies with the requirements of the UK legislations and other regulations as listed in the respective UKCA declaration of conformity.

The importer is responsible for applying the following information to the packaging of the product:

- UKCA marking



- the importer company's details, including the company's name and a contact address in the United Kingdom.

4.3 RF EXPOSURE COMPLIANCE

RF exposure statement (mobile and fixed devices)

This device complies with the RF exposure requirements for mobile and fixed devices. However, the device shall be used in such a manner that the potential for human contact during normal operation is minimized.

5 INTEGRATOR AND HOST REQUIREMENTS

Compliance statements

All statements listed in Chapter "Compliance statements" of this integration manual must be also listed in the user manual of the host device.

Special accessories

Where special accessories such as shielded cables and/or special connectors are required to comply with the emission limits, the instruction manual shall include appropriate instructions on the first page of the text describing the installation of the device.

Simultaneous transmission

When the host product supports simultaneous-transmission operations the host manufacturer needs to check if there are additional RF exposure filing requirements due to the simultaneous transmissions. When additional application filing for RF exposure compliance demonstration is not required (e. g. the RF module in combination with all simultaneously operating transmitters complies with the RF exposure simultaneous transmission SAR test exclusion requirements), the host manufacturer may do his own evaluation without any filing, using reasonable engineering judgment and testing for confirming compliance with out-of-band, restricted band, and spurious emission requirements in the simultaneous-transmission operating modes. If additional filing is required please contact the person at ELATEC GmbH responsible for certification of the RF module.

APPENDIX

A – TERMS AND ABBREVIATIONS

TERM	EXPLANATION
host device	Also “host” or “host product”. Device in which an RFID module is intended to be installed for operation.
Integrator	Responsible party for the integration of an RFID module into a host device. The integrator might be the module manufacturer, the host manufacturer, the end user or any other third party.
modular type	Physical configuration in which a modular transmitter operates when installed within a host device. It can be a single-modular, a limited single-modular, a split-modular or a limited split-modular type.
n/a	Not applicable
RFID (reader) module	Device intended to be used within another device or product. Depending on the equipment configuration and intended use, an RFID module has to meet different requirements to get a modular grant.

B – RELEVANT DOCUMENTATION

ELATEC documentation

- TWN4 MultiTech LEGIC M data sheet
- TWN4 MultiTech LEGIC M functional description
- TWN4 MultiTech LEGIC M user manual
- TWN4 MultiTech OEM PCBs technical handbook

External documentation

Document name	Document title/description	Source
n/a	Technical documentation related to the host product	Host product manufacturer

For more information about this integration manual or TWN4 MultiTech LEGIC M, go to www.elatec.com or contact ELATEC.



ELATEC

RFID Systems

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