

### metraTec® Dwarf14 HF SMD Module

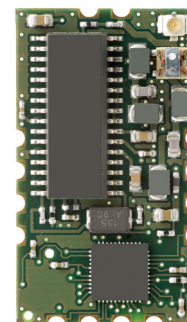
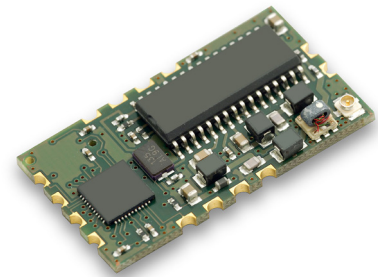
RFID technology offers manufacturers of machines, terminals and many other devices a variety of useful and innovative application scenarios: Checking consumables, saving user configurations, access control, cashless payment, e-ticketing, anti-counterfeiting....

Independent of the field you are working in or what your product idea is - with metraTec's Dwarf14 SMD module you can enhance your device with RFID MIFARE® functionality without problems and without a big budget. With a size of only 22 x 39 mm the module sets new standard for RFID reader miniaturization. With the external antenna and cable lengths of up to 50 cm you get a maximum of flexibility in your component placement. With the metraTec TinyPCB a read range of 50 mm is typical, with a big antenna (150 x 150 mm) you can even get a read range of up to 100 mm. The modules currently support the MIFARE Classic® as well as MIFARE Ultralight® protocols.

With the use of this production ready SMD module you get a tested hardware and firmware with an extremely short time to market. There is even a free Eagle library for quickest integration into your PCB.

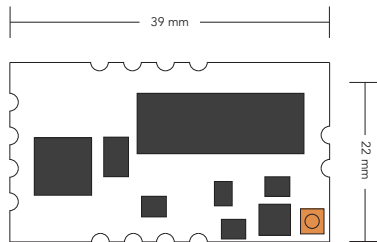
### Further Hardware

- Various PCB antennas with U.FL connector
- Individual antenna design
- Antenna cables in various lengths
- Integration service and consulting

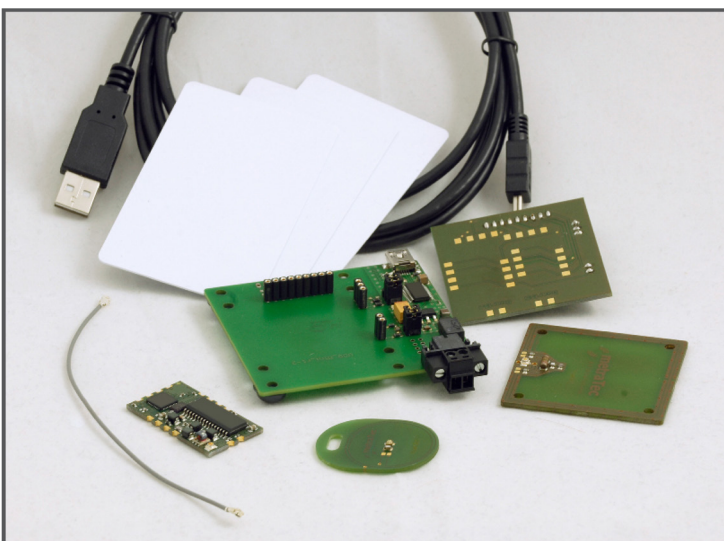


## Technical Specification

Operating Principle	HF Short-Range RFID SMD Module
Operating Frequency	13.56 MHz (worldwide frequency)
Antenna	external 50 Ohm antenna
Antenna Connector	U.FL / Vias
RF Power	max. 250 mW
Read Range	up to 50 mm, depending on antenna
Supported RFID Protocols	MIFARE Classic®, MIFARE Ultralight®
Operating Voltage	5 V DC
Current Consumption	idle: 50 mA, RF on: max. 180 mA
Digital Inputs/Outputs	8 x 5 V Input/Output (configurable)
Communication	5 V UART (115,200 Baud)
Operating Temperature	-20 °C to +70 °C
Dimensions	22 x 39 mm



And for the quick development process:  
The Dwarf14 RFID Starter Kit



## At a Glance

- Quick and cost effective design of RFID projects
- SMD solderable with tiny footprint
- External Antenna Connector

## About metraTec

metraTec develops, manufactures and sells electronics for the product segments „Identification“, „Localization“, „Communication“ and „Wireless Power“. It serves a variety of industries, both with standard products as well as custom solutions. Our customers are system integrators, OEM customers as well as research institutes world wide.

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