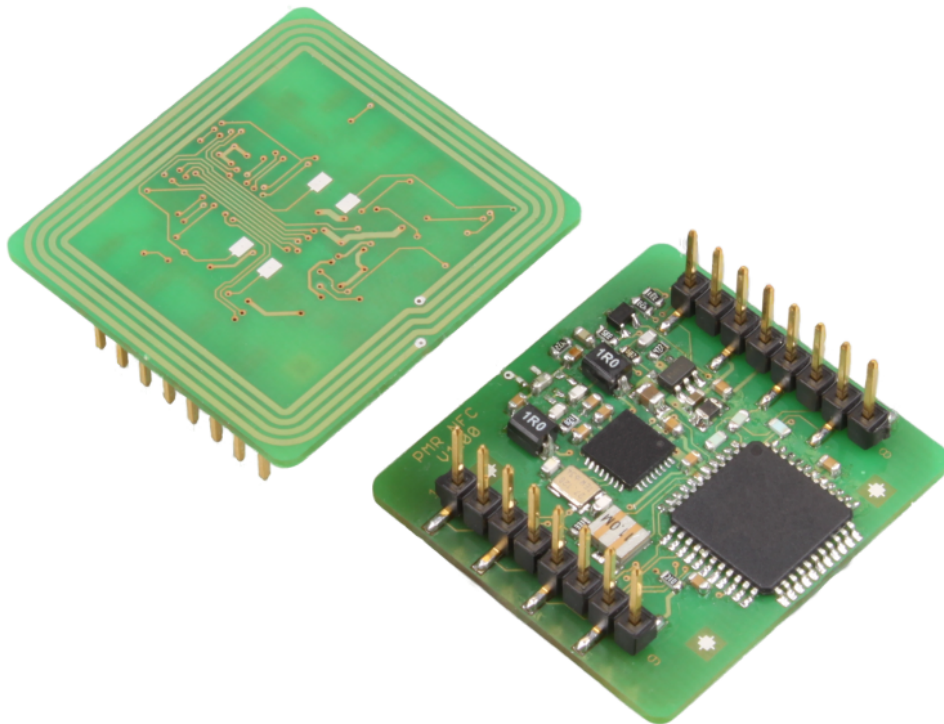


TWN4

MultiTech Mini

DocRev11, February 20, 2025



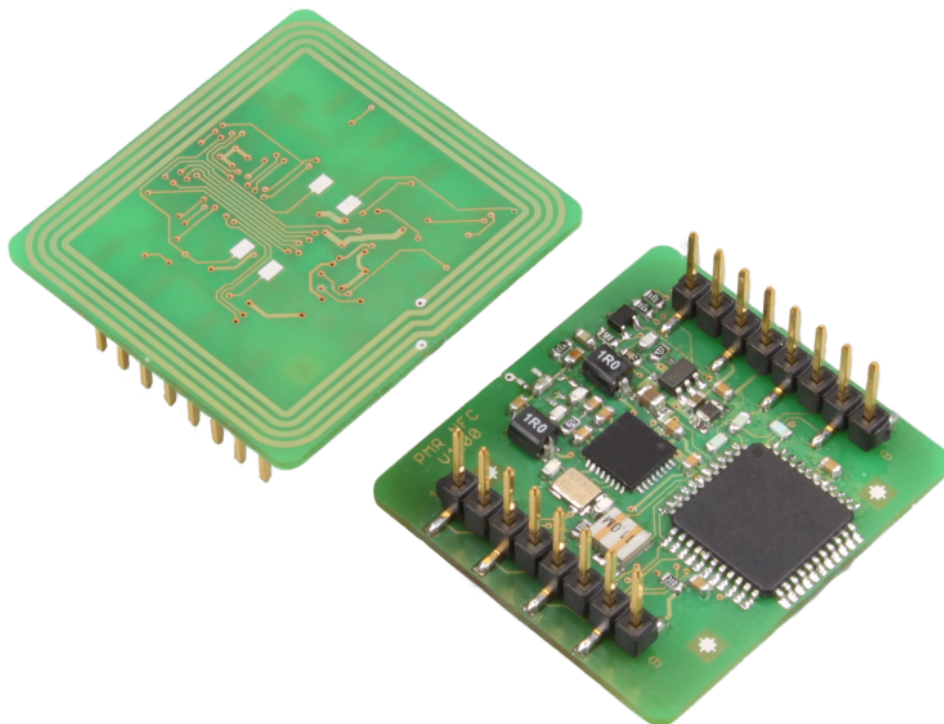
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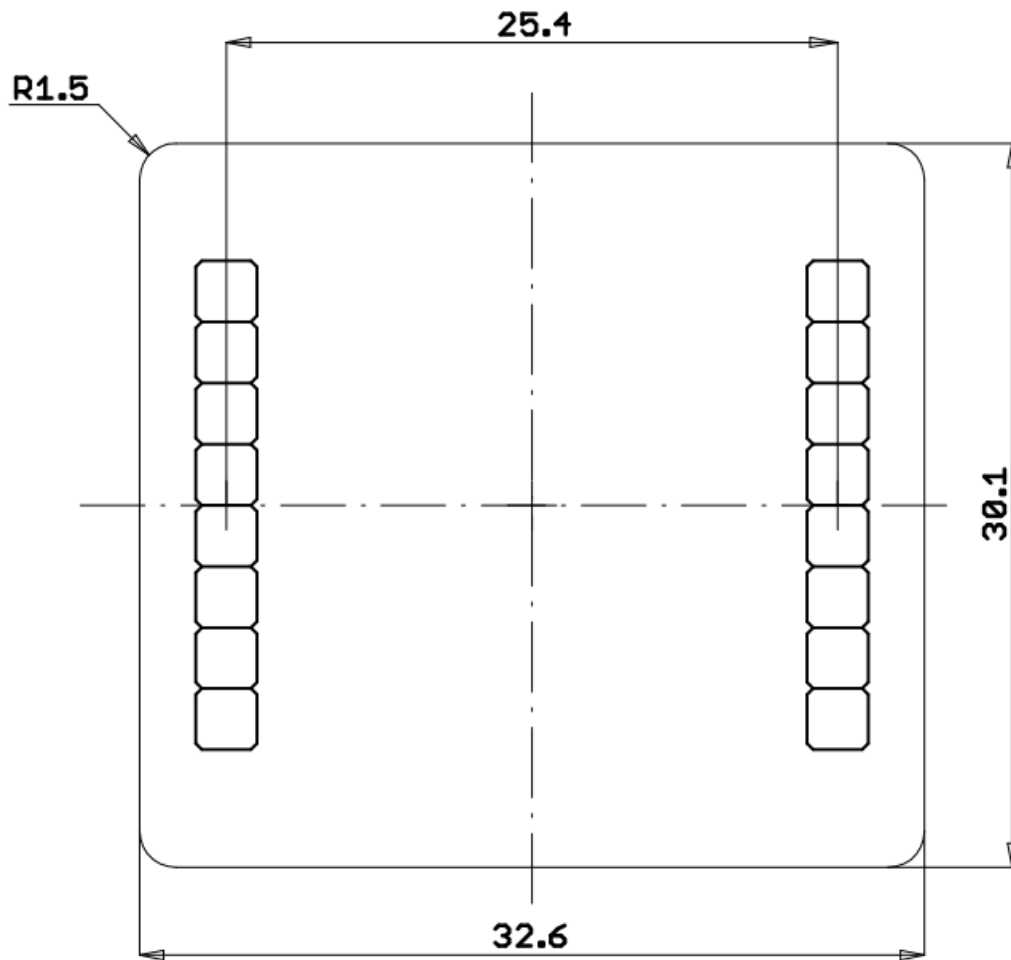
1 Introduction

TWN4 MultiTech Mini is a module to be integrated on custom PCB. It has a built-in HF antenna and subset of IOs compared to TWN4 Core Module. TWN4 Mini Reader is currently available as version TWN4 Mini Reader MIFARE NFC.



2 Dimensions

Below are the dimensions of the TWN4 MultiTech Mini. All dimensions in mm unless otherwise stated.



3 Connectors

The TWN4 Mini Reader has two on-board single row headers with 8 positions each. The pins of these two connectors are together enumerated from 1 to 16.

- Single row header
- Pitch 2.54mm
- Pin shape square 0.635mm

Pin	Pin Name	Function
1	RESET-	Low active TTL input with internal pull-up resistor for hard reset.
2	PWRDWN-	Low active TTL input with internal pull-up resistor for turning off the voltage regulator.
3	GND	Ground
4	VIN	Unregulated input to on-board voltage regulator
5	RXD- (USB: D+)	Low active TTL input with internal pull-up resistor of asynchronous RXD to COM1. In case of USB version: USB Data+
6	TXD- (USB: D-)	Low active TTL output (push/pull) of asynchronous TXD from COM1. In case of USB version: USB Data-
7	SCK	SCK from SPI host interface.
8	SS-	SS- from SPI host interface.
9	VCC	Internally regulated 3.0V power supply. To be used for SAM1.
10	SAM_IO	I/O line for SAM1.
11	GPIO3	GPIO3, I/O pin for general purposes.
12	GPIO2	GPIO2, I/O pin for general purposes.
13	GPIO1	GPIO1, I/O pin for general purposes.
14	GPIO0	GPIO0, I/O pin for general purposes.
15	SAM_CLK	Clock output for SAM1
16	SAM_RST	Reset output for SAM1

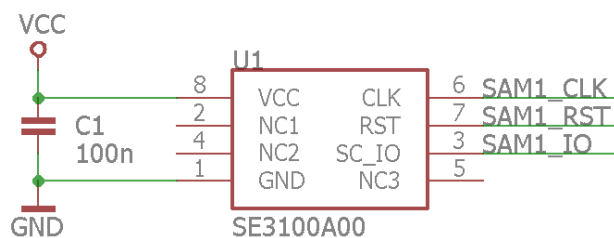
4 Using PI Option

To use the PI Option, e.g. to read the PAC bits from an iCLASS transponder, a secure element is needed. This can be either a secure element which is soldered directly on a PCB or a SAM card incorporating the secure element.

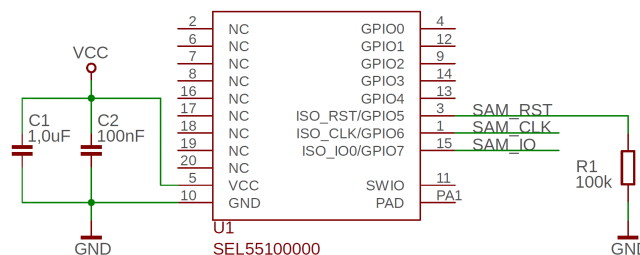
4.1 Secure Element Soldered on PCB

The secure element (SE) has to be added to the design of the mainboard. The chip shall be connected to the SAM-pins of the TWN4 Mini Reader.

Recommended schematic (SE V7):



Recommended schematic (SE V10):



4.2 SAM Card Connection

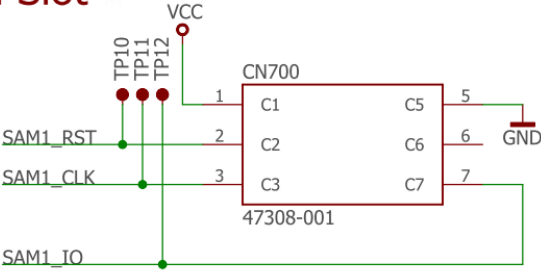
A SAM socket has to be added to the design of the mainboard. The SAM socket shall be connected to the SAM-pins of the TWN4 Mini Reader.

Following SAM sockets are recommended:

- Molex 47388-2001
- Molex 47308-0001

Recommended schematic:

SAM Slot



5 Disclaimer

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