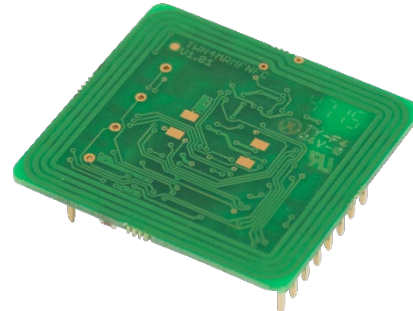


# TWN3 Mini Reader MIFARE NFC

Single-frequency HF RFID module with NFC support



TWN3 Mini Reader MIFARE NFC  
top view\*



TWN3 Mini Reader MIFARE NFC  
bottom view\*

\*The product images are illustrative only and might differ from the actual product.

ELATEC's TWN3 Mini Reader MIFARE NFC is designed for integration into machines, handheld computers or any other device. The focus has especially been set on size, low power consumption, price and flexibility. Thanks to its compact dimensions, integration directly on a PC board is possible.

Outstanding features are: 4 user-configurable ports (to be configured as input or output), beeper support and an integrated high performance antenna. The simple ASCII or Binary protocol enables quick software development cycles. All host communication is done via SPI or asynchronous serial TTL interface. The module offers positions for placement for two LEDs that can be controlled by software. An external Secure Access Module (SAM) is supported for enhanced security and cryptographic performance. This enables the application to perform secure transactions, e.g. payment terminals etc..

## Special features:

- + Firmware update in the field possible
- + Supports transparent data exchange with RFID media
- + Operating voltage: 3.20 V – 5.5 V DC
- + Low power (< 2  $\mu$ A)
- + Supports connection of external ISO 7816 compatible SAM cards
- + Compact design (33 x 30 x 11 mm)
- + Integrated antenna
- + Interfaces: Serial TTL or SPI
- + ASCII or Binary protocol
- + 4 GPIOs
- + Industrial operating temperature: -25 °C to +80 °C
- + Pin compatible downgrade from TWN4 MultiTech HF Mini Reader T4MR-F



Elevator



EV Chargers



Access



Shop POS



Fitness  
Equipment



Ticket POS



PC Log-on



Document  
Management



Driver ID



Vending



Parking



Gaming



Locker Locks



Time  
Attendance



Industrial  
PC

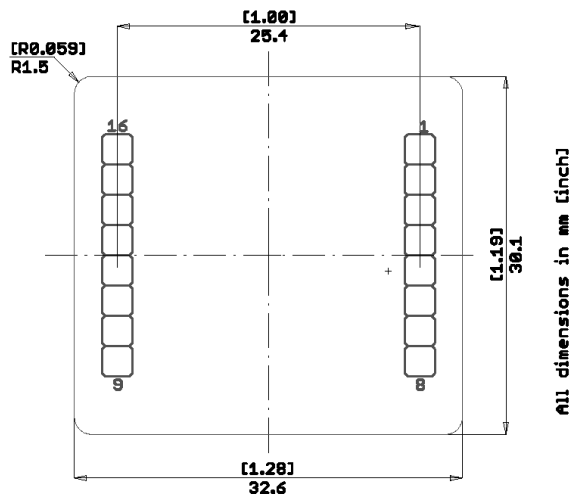
## TECHNICAL DATA

FREQUENCY	13.56 MHz (HF)
ANTENNA	Integrated
DIMENSIONS (L X W X H)	Approx. 32.60 x 30.10 x 11.20 mm / 1.26 x 1.19 x 0.44 inch
POWER	3.2 V – 5.5 V DC ES1/PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A
CURRENT CONSUMPTION	RF field on: 80 mA typically, RF field off: 10 mA, power down: < 2 µA
TEMPERATURE RANGE	Operating: -25 °C up to +80 °C (-13 °F up to +176 °F) Storage: -40 °C up to +85 °C (-40 °F up to +185 °F)
RELATIVE HUMIDITY	5% to 95% non-condensing
READ/WRITE DISTANCE	Up to 70 mm / 2.75 inch, depending on environment and transponder
MTBF	500,000 hours
WEIGHT	Approx. 15 g / 0.53 oz
SUPPORTED TRANSPONDERS	Depending on the firmware version, the reader supports a wide range of transponder technologies. Please refer to the relevant ELATEC transponder matrix (available at <a href="http://www.elatec-rfid.com/int/transponder-technology">www.elatec-rfid.com/int/transponder-technology</a> ) for more information about the transponder technologies supported by the reader.
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android <sup>1)</sup> , iOS <sup>1)</sup> , MAC OS X <sup>1)</sup>
PERIPHERAL INTERFACES	TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), SPI, 4 GPIOs
TRANSMISSION SPEED	9,600 baud, 8N1 (default) – up to 115,200 baud
CERTIFICATION NAME	TWN3 Mini Reader MIFARE NFC
CERTIFICATIONS	Non-exhaustive list <sup>2)</sup> : CE/RED, REACH and RoHS-III compliant
ORDER CODES	T3MR-FC1 Reader module, C1 version T3MR-FC2 Reader module, C2 version T3MK-F Development board, incl. T3MR-FC1 and CAB-U9

<sup>1)</sup>On request

<sup>2)</sup>The product has been certified for use in many countries and regions. Contact your Sales representative for detailed information about all certifications and approvals granted to the product.

### DRAWING (COMPONENT SIDE)



### PINNING

Pin	Name	Description
1	RESET	Asynchronous reset
2	PWRDWN	Hard power down
3	GND	Ground
4	VCC	3.3 – 5 V
5	RXD/MOSI	UART/SPI receiver input
6	TXD/MISO	UART/SPI transmitter input
7	SCK	SPI serial clock input
8	SS	SPI slave select input
9	VSAM	3.0V regulated supply for SAM
10	SAM_IO	Bidirectional SAM I/O line
11	GPIO3	General purpose input/output 3
12	GPIO2	General purpose input/output 2
13	GPIO1	General purpose input/output 1
14	GPIO0	General purpose input/output 0
15	SAM_CLK	SAM clock output
16	SAM_RST	SAM reset output

Pin spacing 2.54 mm

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