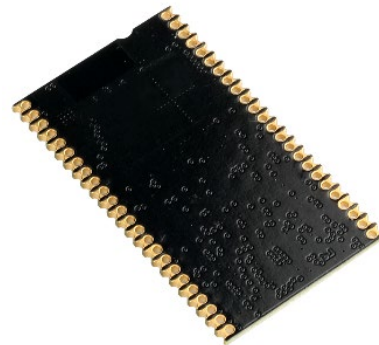# TWN4 MultiTech Nano LEGIC 63 M

Miniature RFID module (LF/HF/NFC/BLE) for external 50 Ohm antenna

C0 version (SMT mounting)
Top view

C0 version (SMT mounting)
Rear view

With the TWN4 MultiTech Nano family, ELATEC offers extremely compact RFID modules that are also fully compliant with the TWN4 technology. Their miniature size and low energy consumption give the option to integrate them in smaller battery-powered consumer devices, like tablet PCs, POS terminals or mobile payment systems. Furthermore, their components are mounted on one side only, which facilitates easy placement on the main circuit board. These devices are the ideal solution in case of particular restrictions during the installation (space limitations, metal surrounding the reader antenna, etc.).

Key features of the TWN4 MultiTech Nano LEGIC 63 M RFID module include compact dimensions and two mounting options (Surface Mounting or Through Hole Technology) for an easy integration into almost all mobile and battery-operated applications, as well as the possibility to read more than 60 RFID technologies from low (LF) and high (HF) frequency bands, including NFC, depending on the external antenna/mother board connected to the module. Furthermore, the module is also equipped with an integrated BLE module and the LEGIC frontend chip SM-6300 (optionally, SM-6300init) that supports LEGIC Connect.

Special features:

+ Easy integration thanks to a compact design and components mounted only on one side
+ Integrated BLE module and LEGIC frontend chip SM-6300 or SM-6300init with LEGIC Connect support
+ Supports segment initialization function (LEGIC SM-6300init frontend only)
+ Supports connection of external ISO 7816 compatible SAM cards
+ Powerful SDK for writing apps which are executed directly on the reader
+ Firmware update in the field possible
+ On-board 18 kB flash storage, e.g. for storing user accessible non-volatile data
+ Supports transparent data exchange with RFID media
+ Development board and I/0 Extender for interface testing on request

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
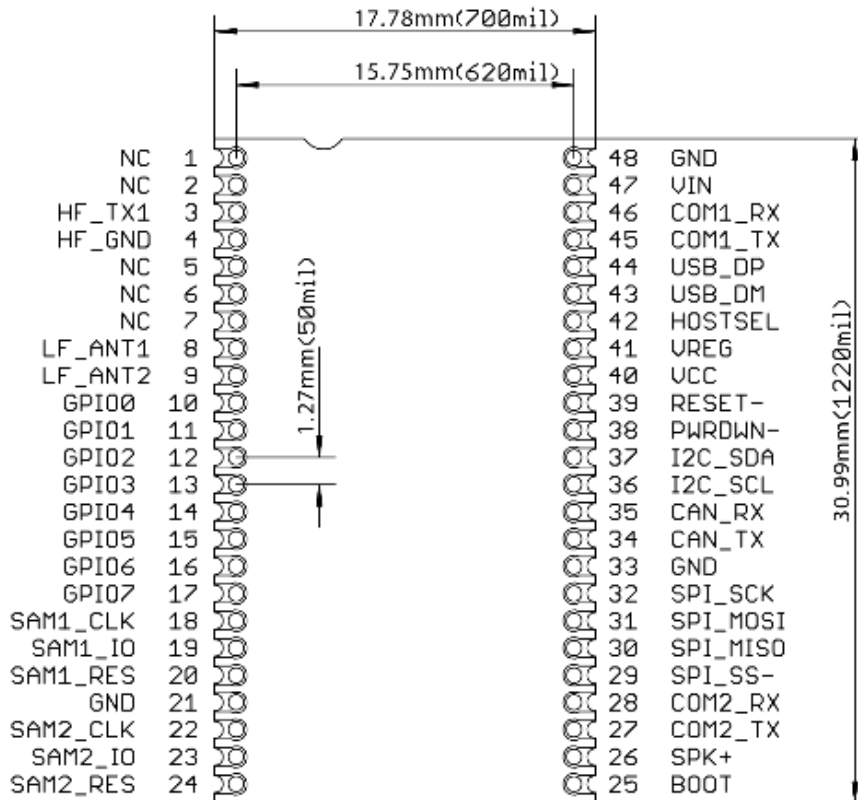
TECHNICAL DATA

FREQUENCIES	125 kHz (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)
ANTENNAS	Externally, 50 Ohm for 13.56 MHz – 490 µH ± 5% for 125 kHz
DIMENSIONS (L X W X H)	C0 version: approx. 31.00 x 17.80 x 2.70 mm / 1.22 x 0.70 x 0.11 inch C1 version: approx. 31.00 x 17.80 x 8.11 mm / 1.22 x 0.70 x 0.32 inch
POWER	Direct power supply: 3.3 V ± 5% On-board voltage regulator: 4.3 V – 5.5 V PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A
CURRENT CONSUMPTION	RF field on: 160 mA typically / Sleep: 500 µA typ. / Cyclic operation: 130 mA typ.
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
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
BLUETOOTH LOW ENERGY	BLE version 5.0 (upgradable) LEGIC Connect on demand
MTBF	500,000 hours
WEIGHT	Approx. 8 g / 0.28 oz
SUPPORTED OPTIONS AND TRANSPONDERS	Depending on the firmware version and installed options, ELATEC readers and modules can support a wide range of RFID technologies. Please refer to the relevant ELATEC transponder matrix (available at www.elatec-rfid.com/int/transponder-technology) for more information about the available options and RFID technologies supported by the product.
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android[1], iOS[1], MAC OS X[1]
PERIPHERAL INTERFACES	USB, 2 x TTL serial (logic level 3.3 V, CMOS 5 V tolerant), I²C, SPI, 8 GPIOs, Clock/Data, Wiegand D0/D1
TRANSMISSION SPEED	Host: USB Full speed (12 Mbit/s), TTL serial: up to 115,200 baud, HF Air: up to 848 kbit/s, BLE Air: up to 1 Mbit/s
CERTIFICATION NAME	TWN4 MultiTech Nano LEGIC 63 M
CERTIFICATIONS	Non-exhaustive list[2]: CE/RED, REACH and RoHS-III compliant
ORDER CODES	**C0 version (SMT)** T4NM-D5C0 Standard reader module T4NM-D5C0-P Reader module with P option T4NM-D5C0-5 Standard reader module with LEGIC SM-6300init T4NM-D5C0-5P Reader module with P option and LEGIC SM-6300init **C1 version (THT)** T4NM-D5C1 Standard reader module T4NM-D5C1-P Reader module with P option T4NM-D5C1-5 Standard reader module with LEGIC SM-6300init T4NM-D5C1-5P Reader module with P option and LEGIC SM-6300init

[1] On request

[2] 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.

TECHNICAL DRAWINGS

17.78mm(700mil)

15.75mm(620mil)

1.27mm(50mil)

30.99mm(1220mil)

Pin	Signal		Pin	Signal
1	NC		48	GND
2	NC		47	VIN
3	HF_TX1		46	COM1_RX
4	HF_GND		45	COM1_TX
5	NC		44	USB_DP
6	NC		43	USB_DM
7	NC		42	HOSTSEL
8	LF_ANT1		41	VREG
9	LF_ANT2		40	VCC
10	GPIO0		39	RESET-
11	GPIO1		38	PWRDWN-
12	GPIO2		37	I2C_SDA
13	GPIO3		36	I2C_SCL
14	GPIO4		35	CAN_RX
15	GPIO5		34	CAN_TX
16	GPIO6		33	GND
17	GPIO7		32	SPI_SCK
18	SAM1_CLK		31	SPI_MOSI
19	SAM1_IO		30	SPI_MISO
20	SAM1_RES		29	SPI_SS-
21	GND		28	COM2_RX
22	SAM2_CLK		27	COM2_TX
23	SAM2_IO		26	SPK+
24	SAM2_RES		25	BOOT