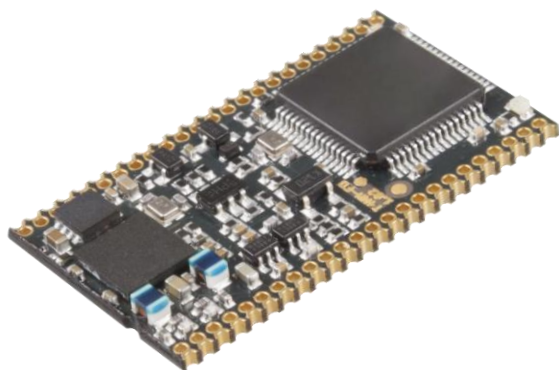


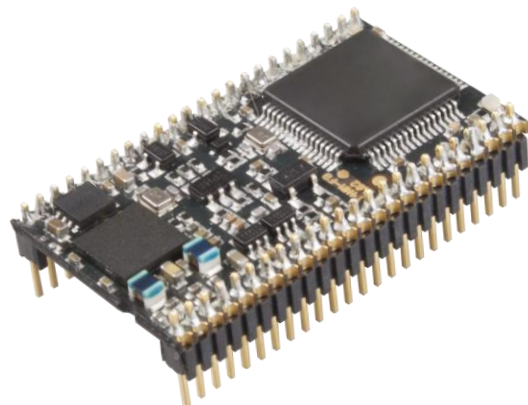
preliminary

# TWN4 MULTITECH NANO LEGIC 42

## 125kHz/134.2kHz & 13.56MHz Contactless Reader/Writer



Version C0  
(SMT)



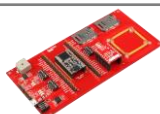
Version C1  
(THT)

Elatec's TWN4 Family allows users to read and write to almost any 125kHz / 134.2kHz and 13.56MHz tags and/or labels – it supports all major transponders from various suppliers like ATMEL, EM, ST, MIFARE NXP, TI, HID, LEGIC, etc. and ISO standards like ISO14443A including ISO14443A-4 (T=CL), ISO14443B including ISO14443B-4 (T=CL), ISO15693, ISO18092 / ECMA-340 (NFC).

The TWN4 MultiTech Nano LEGIC 42 is designed for integration into machines or any other device to be used with external antenna (125/134.2kHz, 13.56MHz or both). The powerful hardware allows the extension of supported transponders to meet your individual request.

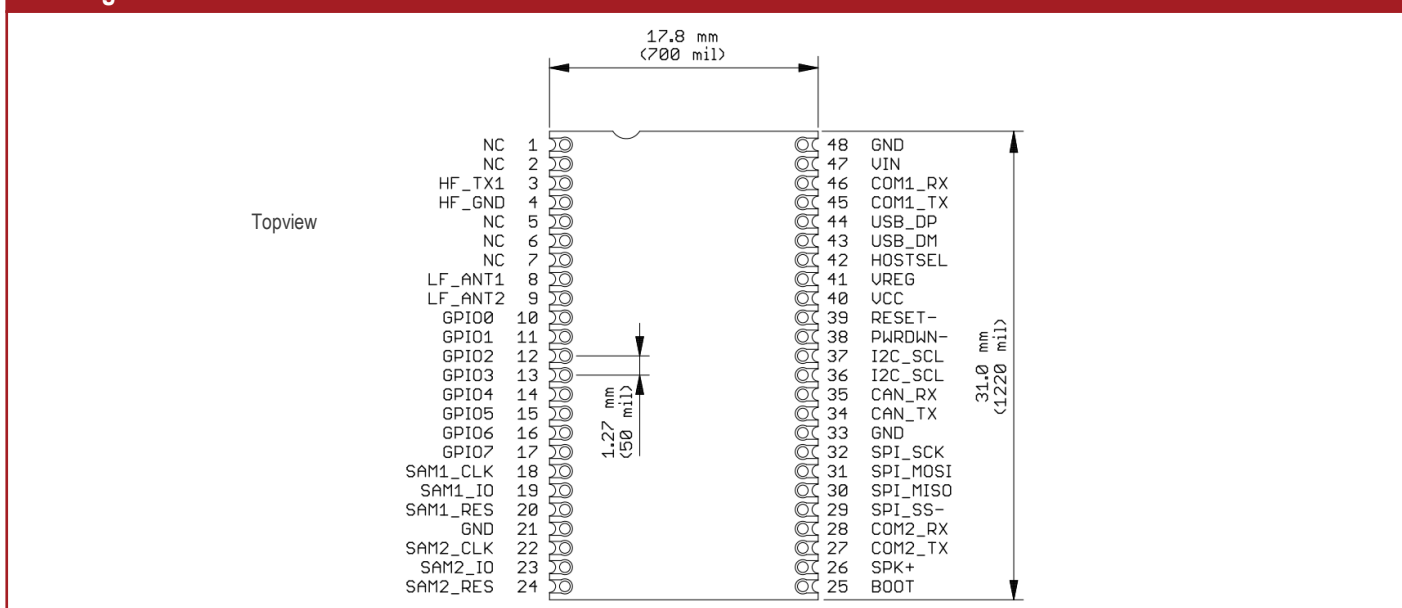
### Special Features:

- Powerful SDK for writing Apps which are executed directly on the reader
- Infield Upgradeable
- Direct chip-commands support
- Supports multiple SAMs (Secure Access Modules)<sup>1)</sup>
- Supports 50 Ohm external antennas
- CCID and PC/SC 2.01<sup>1)</sup>
- Interfaces:  
USB, Serial (logical level 3.3V, CMOS 5V tolerant), I<sup>2</sup>C, SPI<sup>2)</sup>, Clock/Data<sup>3)</sup>, Wiegand<sup>3)</sup>, CAN<sup>2)3)</sup>, 1-Wire<sup>2)</sup>
- 3D Model (STEP) on request

Technical Data <sup>4)</sup>													
Frequency	125kHz, 134.2kHz (LF) / 13.56MHz (HF)												
Antenna	Externally for 13.56MHz – 490µH ±5% for 125kHz/134.2kHz												
Dimensions (LxWxH)	31mm x 17.8mm x 2.5mm / 1.22inch x 0.7inch x 0.12inch												
Power Supply	3.3V +/-5% (direct supply) or 4.3-5.5V (use of on-board voltage regulator)												
Current Consumption	Depending on antenna: RF field on: 120mA typ. / Sleep: 500µA typ. / Cyclic Operation: TBD												
Temperature Range	Operating: -40°C up to +80°C (-40°F up to +176°F) Storage: -45°C up to +85°C (-49°F up to +185°F)												
Read- / Write Distance	Up to 100mm / 4inch, depending on antenna and tag												
HOST Interface	USB, 2 x serial (logic level 3.3V, CMOS 5V tolerant), I2C, SPI <sup>2)</sup> , Clock/Data <sup>3)</sup> , Wiegand <sup>3)</sup> , 1-Wire <sup>2)</sup> CAN, RS232/422/485 require adapter board												
OS Support	Windows XP, Vista, Embedded CE <sup>2)</sup> , 7(32-/64-bit), 8, 8.1, 10, Linux, Android, iOS <sup>2)</sup> , MAC OS X <sup>2)</sup>												
Transmission Speed	HOST: USB: Full speed (12Mbit)   AIR: up to 848Kbit/s												
Modes of Operation	USB key board emulation – USB virtual COM port – Transparent – CCID mode / PC/SC 2.01												
Relative Humidity	5% to 95% non-condensing												
Supported Transponders	<p><b>Standard</b></p> <ul style="list-style-type: none"> <li>125kHz / 134.2kHz: 4100, 4102, 4200<sup>10)</sup>, 4050, 4150, 4450, 4550, AWID, CASI-RUSCO, HITAG 1<sup>11)</sup>, HITAG 2<sup>11)</sup>, HITAG S<sup>11)</sup>, Keri, Miro, Pyramid, TIRIS/HDX, UNIQUE, FDX-B, Q5, TITAN, T55x7, ZODIAC</li> <li>Optionally, in consideration: 4305, Cardax, IDTECK</li> <li>13.56MHz: LEGIC Advant, LEGIC Prime</li> <li>ISO14443 A+B: compatible to part 4, MIFARE DESFire EV1, MIFARE Plus, MIFARE SmartMX, my-d move<sup>7)</sup>, PayPass, MIFARE Classic EV1<sup>9)</sup>, MIFARE Ultralight EV1<sup>9)</sup>, MIFARE Ultralight C, NTAG2xx<sup>9)</sup>, HID iCLASS<sup>5)</sup></li> <li>ISO15693: EM4035<sup>7)</sup>, Tag-it, my-d vicinity<sup>7)</sup>, ICODE SLI, M24LR16/64, PicoPass<sup>5)</sup>, HID iCLASS<sup>5)</sup></li> <li>ISO18092 / NFC: NFCIP-1: NFC Forum Tag Type 2-4, Sony FeliCa<sup>6)</sup></li> </ul> <p><b>Version P</b> Standard+Cogtag, G-Prox<sup>8)</sup>, HID(Prox, Prox II, Duo Prox II, ISO Prox II, Micro Prox, ProxKey), Honeywell NexWatch, Indala, ioProx</p>												
Certifications	RoHS-II compliant												
MTBF	500.000 hours												
Weight	Approx. 7g												
Order Codes	<table border="0"> <tr> <td>C0</td> <td>C1</td> <td>TWN4 MultiTech-P DevKit Nano</td> </tr> <tr> <td>Standard: T4NM-BRC0</td> <td>T4NM-BRC1</td> <td></td> </tr> <tr> <td>Version P: T4NM-BRC0-P</td> <td>T4NM-BRC1-P</td> <td>T4NK-B-P</td> </tr> <tr> <td>Version PI: T4NM-BRC0-PI</td> <td>T4NM-BRC1-PI</td> <td></td> </tr> </table> 	C0	C1	TWN4 MultiTech-P DevKit Nano	Standard: T4NM-BRC0	T4NM-BRC1		Version P: T4NM-BRC0-P	T4NM-BRC1-P	T4NK-B-P	Version PI: T4NM-BRC0-PI	T4NM-BRC1-PI	
C0	C1	TWN4 MultiTech-P DevKit Nano											
Standard: T4NM-BRC0	T4NM-BRC1												
Version P: T4NM-BRC0-P	T4NM-BRC1-P	T4NK-B-P											
Version PI: T4NM-BRC0-PI	T4NM-BRC1-PI												

<sup>1)</sup>In Preparation <sup>2)</sup>On Request Only <sup>3)</sup>External Interface Required <sup>4)</sup>Target Specification <sup>5)</sup>UID Only <sup>6)</sup>Encryption Not Supported <sup>7)</sup>UID/PUPI Only, Read/Write On Request <sup>8)</sup>Hash Value Only <sup>9)</sup>r/w enhanced security features on request <sup>10)</sup>Only emulation of 4100,4102 <sup>11)</sup>Without crypto

## Drawings



Elatec reserves the right to change any information or data in this document without prior notice. The distribution and the update of this document is not controlled. Elatec declines all responsibility for the use of product with any other specifications but the ones mentioned above. Any additional requirement for a specific customer application has to be validated by the customer himself at his own responsibility. Where application information is given, it is only advisory and does not form part of the specification. Disclaimer: All names are registered trademarks. © 2015 Elatec GmbH – DocRev1 – 12/2015