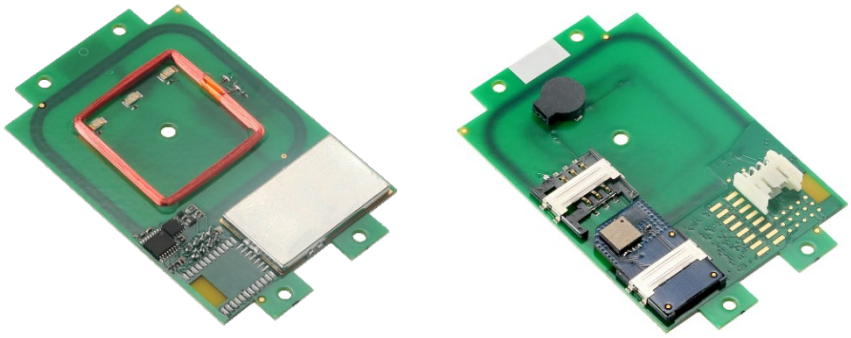
TWN4 MULTITECH 2 M

2nd generation

MULTI-FREQUENCY RFID MODULE FOR LF, HF, NFC AND BLE



TWN4 MultiTech 2 M
(exemplary illustrations)

The TWN4 MultiTech 2 family of contactless RFID readers and modules allows users to read and write to almost any LF and HF tags and labels. All products support NFC and, optionally, Bluetooth Low Energy (BLE). In addition, they are also compatible with the two most commonly used smartphone operating systems, Android and iOS, which gives the option to integrate them in mobile identification applications. The desktop readers are available as Plug & Play devices that can be easily customized (i.e. inlay and housing color), whereas the PCB modules offer a large amount of interfaces and a perfect form factor for an easy and quick installation in any host device. This broad range of product features makes the TWN4 MultiTech 2 family an excellent solution for almost every project.

Key features of the TWN4 MultiTech 2 M RFID module include a powerful SDK for writing apps that are executed directly on the module, the possibility to upgrade the firmware in the field, a direct chip-commands support and an optimized BLE module. Additionally, the module can simultaneously read more than 60 RFID technologies from low (LF) and high frequency (HF) bands, including NFC. This gives the option to select as many of the technologies required instead of being forced to select just a few ones.

Special features:

+ Possibility to read more than 60 RFID technologies
+ Supports two RFID frequencies (125 kHz/13.56 MHz), NFC and BLE
+ Supports Apple VAS (Apple ECP 2.0 ready)[1)]
+ Powerful SDK for writing apps which are executed directly on the module
+ Firmware update in the field possible
+ On-board 18 kB flash storage, e.g. for storing user accessible non-volatile data
+ Direct chip-commands support
+ CCID and PC/SC 2.01
+ Bluetooth V5.x
+ Compact form factor for easy integration

TECHNICAL DATA

FREQUENCY	125 kHz (LF) / 13.56 MHz (HF) / 2.4 GHz (BLE)
ANTENNA(S)	Integrated
DIMENSIONS (L X W X H)	Approx. 76 x 49 x 10 mm / 3.0 x 1.9 x 0.4 inch
POWER	USB: 4.3 V - 5.5 V Generic interface (X1): 3.3 V ± 5% RS-232: requires 5 V external power supply PS2 classified power source according to IEC 62368-1, short-circuit current < 8 A
CURRENT CONSUMPTION	RF field on: 120 mA typically + 16 mA (BT) / Sleep: 500 µA 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
READ/WRITE DISTANCE	LF and HF: up to 100 mm / 4 inch, depending on environment and transponder BLE: up to several meters/feet
OPERATING MODES (USB)	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01
BLUETOOTH LOW ENERGY	Bluetooth V5.x
MTBF	500,000 hours
WEIGHT	Approx. 15 g / 0.53 oz (without cable)
OS SUPPORT	Windows 7 (32-/64-bit) and higher versions, Linux, Android[2], iOS[2], MAC OS X[2]
PERIPHERAL INTERFACES	USB, RS-232, TTL serial (logic level 3.3 V, CMOS, 5 V tolerant), I²C, 4 GPIOs, Clock/Data, Wiegand D0/D1, 1 free SAM slot[3]
TRANSMISSION SPEED	Host: USB full speed (12 Mbit/s), RS-232: up to 115,200 baud, HF Air: up to 848 kbit/s, BT Air: up to 100 kbit/s
CERTIFICATION NAME	TWN4 MultiTech 2 M
CERTIFICATION(S)	CE/RED, FCC, IC, REACH and RoHS-III compliant, Apple VAS certified (Apple ECP 2.0 ready)[1], and many more[4]
ORDER CODE(S)	T4BO-F7-XB Reader module, standard T4BO-F7-XBP Reader module with P option T4BO-F7-XBPI Reader module with PI option

SUPPORTED TRANSPONDERS[5]

SUPPORTED TRANSPONDERS (STANDARD) 13.56 MHZ	ISO 14443A: LEGIC Advant[6], NTAG2xx, MIFARE Classic, MIFARE Classic EV1[7], MIFARE DESFire EV1, MIFARE DESFire EV2[8], MIFARE DESFire EV3[8], MIFARE DESFire Light[2], MIFARE Mini, MIFARE Plus S, MIFARE Plus X, MIFARE Smart MX[9], MIFARE Ultralight, MIFARE Ultralight C, MIFARE Ultralight EV1[7], SLE44R35[9], SLE66Rxx (my-d move)[9], Topaz ISO 14443B: Calypso[9], Calypso Innovatron protocol[9], CEPAS[9], CTS, Pico Pass[10], SRI4K, SRI512, SRIX4K, SRT512 ISO 15693: EM4x33[9], EM4x35[9], ICODE SLI, LEGIC Advant[6], M24LR16/64, MB89R118/119, PicoPass[10], SRF55Vxx (my-d vicinity)[9], Tag-it ISO 18092 / ECMA-340: NFC Forum Tag 1-5, Sony FeliCa[11] LEAF Identity: LEAF[12]
SUPPORTED TRANSPONDERS (STANDARD) 125 KHZ[13]	AWID, Cardax[14], CASI-RUSCO, Deister[14], EM4050, EM4100, EM4102, EM4150, EM4200[15], EM4305, EM4450, EM4550, HITAG 1[16], HITAG 2[16], HITAG S[16], ICT[2], IDTECK, ISONAS, Keri, Miro, Nedap[14], Pyramid, Q5, T5557, T5567, T5577, TITAN (EM4050), UltraProx, UNIQUE, ZODIAC

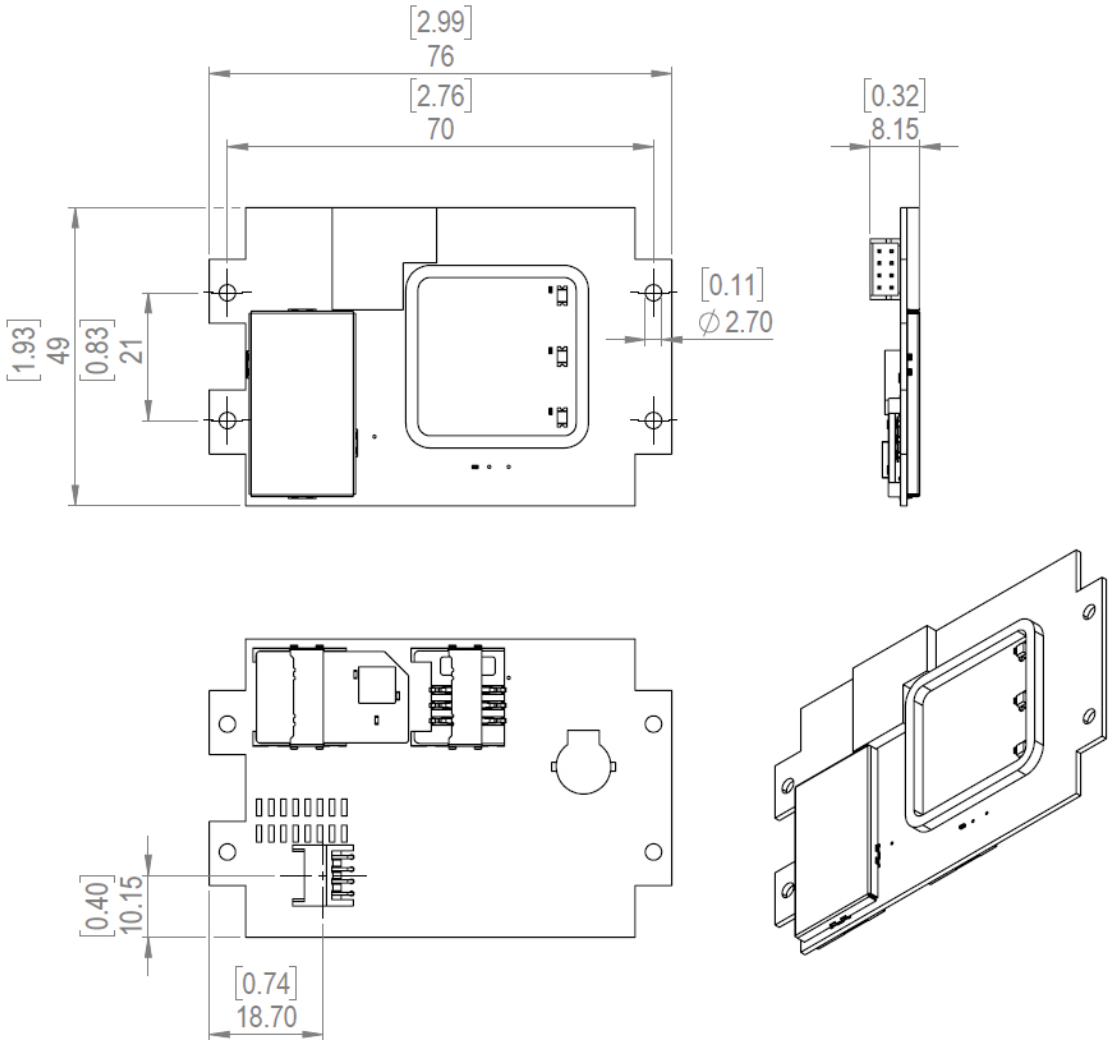
SUPPORTED TRANSPONDERS (P OPTION)	All standard transponders, G-Prox[14)], HID 1326 Prox II, HID 1336 DuoProx II, HID 1346 ProxKey III, HID 1386 ISO Prox II, HID 1391 Micro Prox, HID Prox, Indala, ioProx, Nexwatch
SUPPORTED TRANSPONDERS (PI OPTION)[17)]	All standard transponders[18)], all P option transponders, HID MIFARE DESFire SE, HID MIFARE Classic SE, HID SEOS, HID iCLASS Legacy/SR/SE
SUPPORTED TRANSPONDERS (AV OPTION)	Apple VAS[1)]

[1)]For Apple licensees only and eligible implementers. Please contact ELATEC for details. [2)]On request [3)]The reader module has one free SAM slot only, as one SAM slot is equipped ex-works with the BLE SAM card. It is strictly prohibited to take the BLE SAM card out of the SAM slot. [4)]More information on request [5)]Unless otherwise agreed with ELATEC, the product is delivered with a standard firmware version that might be older than the latest firmware developed by ELATEC. This firmware version can be changed using the ELATEC AppBlaster tool. Please note that the information given in this document regarding the transponder technologies supported by the product is based on the latest firmware version. [6)]UID only [7)]r/w enhanced security features on request [8)]Supported as part of the EV1 downward compatibility [9)]r/w in direct chip command mode [10)]UID only, r/w on request [11)]UID + r/w public area [12)]AV2 only, requires one free SAM slot for MIFARE SAM AV2 card [13)]125 kHz technology requires a Russian local test and import license from the ministry of Trade and Industry (MINPROMTORC). This license has to be in place before ELATEC can accept any order to be shipped to Russia. [14)]Hash value only [15)]Only emulation of 4100, 4102 [16)]Without encryption [17)]Requires one free SAM slot for HID iCLASS SE processor [18)]The module has one free SAM slot only and cannot support LEAF and the PI option at the same time.

ACCESSORIES

CABLES	CAB-B2	USB cable type A 200 cm / 78.74 inch
	CAB-B3	USB cable type A 12 cm / 4.72 inch
	CAB-B4	USB cable type A 45 cm / 17.72 inch
	CAB-B7	USB cable type A 120 cm / 47.24 inch
	CAB-M1	USB cable mini 12 cm / 4.72 inch
	CAB-M2	USB cable mini 25 cm / 9.84 inch
	CAB-R2	RS-232 cable 200 cm / 78.74 inch
POWER SUPPLY	PWA-AUS4	Power supply (AUS)
	PWA-EU4	Power supply (EU)
	PWA-UK4	Power supply (UK)
	PWA-US4	Power supply (US)

TECHNICAL DRAWINGS



All measures in mm [inch]

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