

## VTAP100 USB desktop NFC reader in compact case



The VTAP100 from Dot Origin can selectively read and decrypt NFC pass data from iPhone or Android devices, and transfer this data to a connected system. It can also read unique IDs and secure encoded data from many RFID and NFC cards and tags, including MIFARE Classic and DESFire.

The VTAP100 reader can be used in many environments, including retail loyalty, cashless payment, gym check-in, and sports ticketing. The VTAP100 remains logically separate from any payment mechanism. This simplifies data and security considerations, and the human interaction. It does not support EMV payments, but can be used for stored value and points redemption applications.

VTAP100 has been designed to support a smooth transition from plastic to mobile NFC passes so, alongside mobile passes, the VTAP100 will also read popular contactless RFID or NFC smartcards and tags, to support mixed-use applications. It is fully certified by both Apple and Google to work with their respective VAS and Smart Tap protocols, supporting automatic pass selection on iOS, as well as on-board decryption.

A USB connection from any PC is used to configure the VTAP100, by editing simple text files. Keys can be easily updated but cannot be extracted from the device. The configuration can be locked, so that the device is password protected or read-only in general use.

The VTAP100-USB can output pass data over USB in the same way as a mag-stripe, barcode or QR code scanner. This can be a keyboard emulation or over a virtual COM port interface. This makes it possible to add the VTAP100 to existing systems

without software changes, to update an established card or ticket experience, to one where passes are wholly electronic.

The VTAP100-USB is supplied in a compact desktop case with a captive USB cable. We can supply customised front labels for a small additional fee, typically for orders of 100 or more units.

This is all you need to get started with mobile NFC pass reading, as it includes access to create demonstration mobile passes, so that you can test your application. For production purposes you will need to use a third-party pass provider, or integrate directly with Apple and Google.

Includes a **free** license for Dot Origin's popular Read-a-Card software on request - ideal for customers wanting to integrate with web or desktop applications without using keyboard emulation.

Other versions of VTAP100 are available, for example the VTAP100-PAC-W has a Wiegand interface for access control and turnstiles, and the VTAP100-OEM is a pre-certified PCB module available to integrators, providing both USB and RS-232 serial connectivity. Please contact us to discuss availability of these options.

**Mobile NFC pass reader with USB connection, compatible with Apple VAS and Google Smart Tap, neatly presented in a compact case with captive USB cable**

To buy, visit:

<https://www.smartcardfocus.com/shop/ilp/id~954/p/index.shtml>

This Product Briefing has been produced by Dot Origin Ltd, the smart card experts behind SmartcardFocus.com. If you have a query email [sales@smartcardfocus.com](mailto:sales@smartcardfocus.com) or call us on +44 (0)1428 685250.

## Technical Specifications

### Physical characteristics

Dimensions: 97mm x 49mm x 40mm (3.8in x 1.9in x 1.6in)

Front label: 41mm x 57mm (1.61in x 2.24in) with 2mm (0.08in) radius corners

Power Supply: 5V DC (typ. 110mA, max 150mA)

Mounting options: 2 x mounting holes in base plate

Weight: 114g (4.0oz) including cable

Operating Temperature: -25 to +70°C (-13 to 158°F)

Operating Humidity: 0 to 95% RH non-condensing

### NFC Interface

Frequency/standards: 13.56MHz, ISO 14443A/B, ISO 15693 and ISO 18092

Antenna(s): Integrated 40mm (1.57in) square antenna

Read range: Typically 25mm (1in) depending on environment and phone/card/tag antenna

Mobile wallet compatibility:

- Apple Wallet NFC passes (VAS for loyalty/membership/ticketing plus ECP2.0 for Apple Access)
- Google Wallet NFC passes (Smart Tap, extensible, including generic private passes)
- Pass auto-selection, including full ECP1, ECP2 and Express Mode compliance
- Mobile device type detection and inclusion
- Multiple simultaneous pass IDs
- ECC key auto-select
- Apple enrolment URL and Google STUID capture, where supported

Card/tag compatibility:

- MIFARE Ultralight, MIFARE Classic, MIFARE DESFire,ICODE, NFC Forum Types 2,4,5;
- UID/CSN reading as standard on all card types;
- Secure data reading on MIFARE Classic and MIFARE DESFire;
- NDEF record reading on Type 2 & 4 (Ultralight/NTAG and DESFire/HCE)

Other NFC modes: Dynamic tag emulation (text, URI, raw data) with smart write-back

Pass IDs: Up to 6 x Apple merchant IDs and 6 x Google collector IDs, if supported  
Encryption key slots: 6 x ECC key slots (for Apple & Google merchant IDs); 6 x  
Application key slots (DES or AES)

## **USB**

USB device types (can enable/disable as required):

- USB Mass storage (for easy configuration, key loading & firmware updates);
- Human interface device(standard barcode reader/keyboard emulation);
- USB Virtual COM port (includes active, passive and file transfer modes)

Connector: Captive USB cable

Operating system support: Full support on Windows, Linux, OSX; support for  
keyboard emulation and virtual COM device types on Android; most other operating  
systems support keyboard emulation

## **Other features**

Operator feedback: Buzzer and RGB LEDs (configurable default colour + automatic  
card and pass read beep/flash)

Field configurable: Yes, using configuration files, and with password and hardware-  
based lock

Field upgradeable: Yes, using encrypted firmware file and secure bootloader, and  
factory reset feature

Hardware security: Optional cryptographic co-processor with secure hardware-based  
key storage

Encryption algorithms: ECDH, NIST P-256, ECDSA, HMAC SHA-256, AES-128 CTR,  
AES-256 GCM, ANSI-X9.63-KDF and HKDF according to RFC5869 using HMAC-  
SHA256

## **Compliance / Certification**

Apple VAS, Google SmartTap, UKCA, CE, FCC, ISED, NCC, RoHS

24-month limited hardware warranty

**Manufacturer's part number:** VTAP100-USB-CC

**Manufacturer:** Dot Origin