H512 SERIES

VERSATILE PC/SC NFC DEVICE

READER/WRITER, CARD EMULATION, PEER-TO-PEER

PC/SC NFC DEVICE

The **H512 series** connects to PC through a single USB link and 100% compliant with the PC/SC standard.

The **H512 series** supports any T=CL contactless smartcard (ISO 14443) and is able to read/write any NFC Forum Tag.

EXCLUSIVE NFC FEATURES

Its NFC peer-to-peer capability (ISO 18092), either as Initiator or as Target, is the basis of innovative applications using this exciting new technology.

And, most important, the **H512 series** is the only group of products in its market that implements the card emulation mode into the device itself.

MADE FOR OEM

This is an OEM products family, sold as electronic parts, without housing. There is a ready-to-use product with its own antenna (H512-USB). To address specific requirements, select the core module (H512S) and add a custom antenna.

SpringCard also designs ready-to-use products based on the H512 core. For any information, please contact us.

A FEW TYPICAL APPLICATIONS

Thanks to its small footprint, **the H512 series** is the ideal NFC peripheral to integrate into kiosks, vending machines, point-of-sales PC, card printers or issuing devices... It is perfectly adapted to :

- Event, gaming, ticketing,
- Active advertising,
- Loyalty, couponing,
- Peer-to-peer smartphone applications.

ABOUT SPRINGCARD

SpringCard products are designed and manufactured in France, and distributed worldwide.

With 12 years of expertise in smartcards, contactless, RFID and NFC, **SpringCard** is the ideal partner to make your project a success.

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A PRO ACTIVE BRAND

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TECHNICAL SPECIFICATIONS

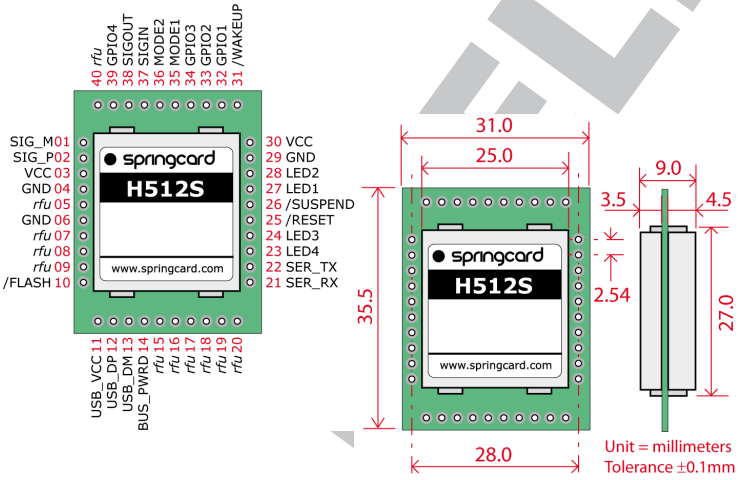
Contactless smartcard interface	
Standards	**ISO/IEC 14443** A and B **ISO/IEC 18092** Initiator and Target (passive) T=CL and NFC-DEP protocols on-board
RFID carrier	13.56 MHz
Operating distance	Typical 5 cm - up to 10cm Vary with antenna, environment and card
Card baud rate	106, 212, 424 or 848 kbps
NFC Forum Tag read/ write	▪ Type 1 : Innovision Jewel/Topaz ▪ Type 2 : NXP Mifare UltraLight, NTAG203... ▪ Type 3 : Sony Felica Lite ▪ Type 4 : any T=CL smartcard
Supported contactless smartcards (partial list)	▪ NXP Mifare Classic, Mifare Plus, Desfire, SmartMX... ▪ Calypso (including Innovatron radio protocol) ▪ Any NFC object or mobile phone running in card emulation mode
Card emulation mode	▪ On-board emulation of NFC Forum type 2 Tag and type 4 Tag, 1024kB available for NDEF data ▪ Host-based emulation mode, with T=CL protocol emulated on-board

USB PC /SC mode	
Standard	USB 2.0 full speed interface (12 Mbps) Standard USB CCID profile
Power supply	Powered by USB 5V DC +/- 10%, 150mA typ. , 200mA max
Windows driver	2000/XP/Vista/Seven
Linux, *nix driver	Supported by PCSC-lite open source stack on Linux and other Unix systems
API and SDK	Compliant with PC/SC version 2 specification Comprehensive SDK available free of charge, including those demo software : ▪ NFC peer-to-peer : basic implementation of SNEP (« NFC beam » or « NDEF push ») on top of LLCP, in both initiator and target mode ▪ NFC Forum type 2 and type 4 Tag emulation (URL, Text, SmartPoster, vCard, MIME...) ▪ PC-based card emulation mode (**ISO/IEC 7816-4** cardlet running on PC) ▪ NFC Forum Tags read/write application ▪ and related applications from the PC/SC SDK

Environment and safety	
Operating temperature	- 20→+ 70°C
Storage temperature	- 40 →+ 85°C
MTBF	500 000 hours
CE mark	EN50082 / EN55022 class B
Other standards	RoHS, FCC part 15 pending

PINOUT AND FOOTPRINT (H512S)

Please refer to document PNA2237 « H512 AND H512USB HARDWARE GUIDE » for reference and details.



ORDER CODES

PART #	Description
H512S	H512 module
H512USB	Ready-to-use H512 mounted on 65x45 antenna
CMP3062	1.5m USB cable for H512USB

PRECAUTIONS FOR INSTALLATION

Those devices use inductive coupling (magnetic field) to power the cards and communicate with them. Precaution must be taken to keep them far from any source of perturbation (e.g. other readers, computers…). Installing the device near a metal surface will decrease the operating distance and increase power consumption. Please contact us if you need any assistance to integrate those devices.

The modules need an external antenna to operate. The antenna must be designed carefully, depending on your own specifications (size constraints, expected operating distance) but with limited flexibility due to the requirements of the ISO standards and the EMC regulations. **SpringCard** has a long experience designing antenna. Please contact us if you need a custom design.

PRO ACTIVE company with a capital of 227 000 €
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