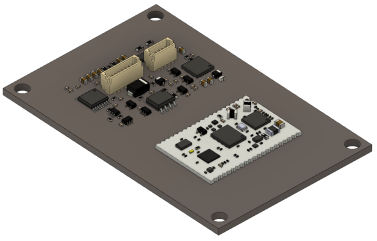
Datasheet M519-SUV

Preliminary



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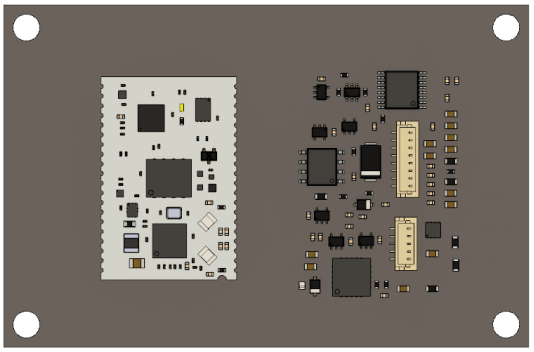

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1. OEM Serial and USB Contactless Couplers

SpringCard M519-SUV reader with antenna has been designed to operate either as an OEM module in our "K" series or as an OEM module in our "H" series, and is able to communicate with virtually any contactless smart card, RFID label, NFC tag or NFC smartphone compliant with one of the standard technologies in the 13.56MHz range.

When operating via USB, it is compatible with the PC/SC USB (CCID) standard.

When used as a serial link, it supports up to three (03) different protocols (RS232, RS485 and TTL).

Designed with ease of use, interoperability and compliance to standards as primary objectives, SpringCard M519-SUV takes advantage of a fast CPU to ensure short transaction times, a key feature when it comes to card reading or issuing in-the-field.

SpringCard M519-SUV also features a protected storage for secret and private cryptographic keys, and is able to run secure transactions protected by AES or ECC schemes with contactless cards and NFC smartphones.

2. MADE FOR OEMS

SpringCard M519-SUV are designed to be integrated in a larger equipment: automated vending machine, POS, turnstyle at a gate, card printer, card issuing machine, kiosk...

SpringCard has a strong experience and commitment in providing industrial-grade solutions.

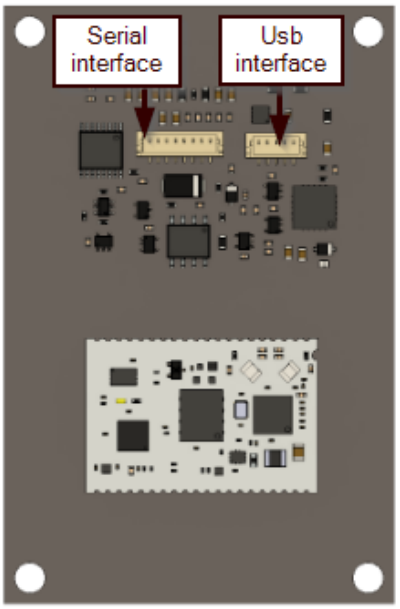
This product is a real all-rounder, and SpringCard also guarantees a long life for it as for its other products.

3. DEVELOPMENT MADE EASY

Thanks to the widely adopted PC/SC standard and to a strong support of market-leading technologies (MIFARE, NFC Forum tags...), SpringCard OEM PC/SC Couplers close the gap between the ‘contact’ smart card and the contactless/RFID worlds.

Drivers are available for Microsoft Windows, Linux and MacOS X. SpringCard provides a free SDK as well as an efficient support service to help your developers create your solution smoothly and quickly.

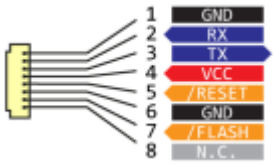
4. CONNECTORS PINOUT



Usb Interface

Pin	Symbol	Type	Description
# 1	**VBUS**	USB	Digital power supply + USB presence, 5V
# 2	**USB_DM**	USB	USB D- signal
# 3	**USB_DP**	USB	USB D+ signal
# 4	**GND**	Ground	Ground signal inside the USB cable
# 5	**SHIELD**	Ground	Shield of the USB cable

Serial Interface



Pin	Symbol	Type	Description
# 1	**GND**	Ground	
# 2	**RX**	In	Main UART, host to module
# 3	**TX**	Out	Main UART, module to host
# 4	**VCC**	Power	External power supply 5V
# 5	**/RESET**	In	Reset the module
# 6	**GND**	Ground	
# 7	**/FLASH**	In	Force DFU (bootloader) mode upon reset
# 8	**N.C.**		Leave unconnected

5. TECHNICAL DATA

RFID/NFC Standards	ISO 14443 A-B, ISO 15693, NFC peer-to-peer (active and passive, initiator and target)
Carrier frequency	13.56MHz (RFID HF, NFC)
RF field level	Typ. 3A/m at 0.5cm
Operating distance	up to 10 cm depending on card and environment
Card/tag baudrate	26kbps (ISO 15693), 106/212/424/848kbps (ISO 14443), 212/424kbps (ISO 18092)
Standards	ISO / IEC
PCD	14443 A & B / NFC-A and NFC-B
VCD	15693 and 18000-3M1 / NFC-V
RFID HF	18000-3M3 / EPC HF
JIS X	6319-4 / NFC-F
NFCIP-2	21481
Card emulation and peer-to-peer operation	ISO / IEC
Standards	ISO/IEC 14443 A (PICC) / emulation of NFC Forum Type 4A Tag ISO/IEC 18092 (NFCIP-1) active and passive, iniator and target
Baudrate	106 kbit/s (PICC) ; 106, 212 ou 424 kbit/s (P2P)
Smartcard interface	
Standards	ISO/IEC 7816-2, -3 and -4, protoles T=0 and T=1 HSP (SAM Calypso)
Card clock frequency	4MHz
baudrate	TA1=11 to TA1=97 (500kbps @ 4MHz)
Host interface	Serial (RS232, RS485 or TTL)
Communication parameters	3.3 V, 8 data bits, 1 stop bit, no parity, no flow control
Baudrate	38400bps (default), 115200bps, 500kbps

Protocols	CCID over serial, SpringProx legacy, SpringCore Direct, RDR MK1,$SCRDR...
Host interface	**USB**
Standard	USB 2.0 full-speed device (compatible with USB 3.x)
Bitrate	12Mbit/s
Profil	CCID (PC/SC), HID keyboard, CDC-ACM, SpringCore Direct
Antenna	**Integrated, 69x45mm, balanced**
Distance antenna/module	N/A
General	
Size (WxHxD)	69 x 45 x 11 mm
Weight	Approx. 25g
Power supply	3.3V nominal for serial operation, 5V (powered by the bus) for USB operation
Temperature	Operating: -25°C – +70°C / Storage: -40°C – +80°C
Humidity	0 - 90% (non condensing)
MTBF	500 000 hours
Approvals	Radio : EN 300 330 - EMC : EN 301 489 - CE mark – FCC class B part 15 (pending/on request)
Environnemental	RoHS, WEEE
Warranty	**2 years**

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