

B22-1938S-6P RFID/NFC Module

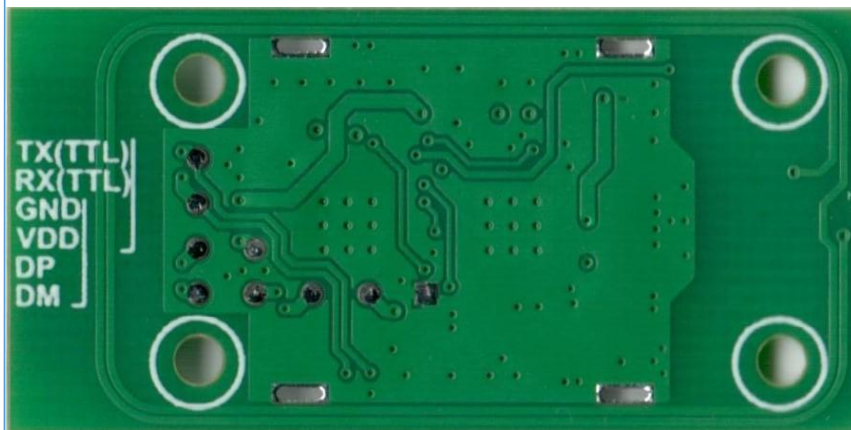
Small size(19mm*38mm*3mm) module with integrated Antenna and 6PIN connector

TOP VIEW (Single side arrangement of components)



(PCB = 1.0mm)

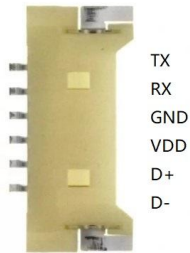
BOTTOM VIEW (smooth and easy adhesive)



Key Features:

- Reader/writer functionality compatible with ISO/IEC14443A&B, MIFARE, FeliCa and NFC Forum tag types (MIFARE UltraLight, FeliCa, MIFARE DESFire)
- Firmware update-able through UART interface
- Operating distance up to 50 mm
- Integrated MIFARE Classic reader support
- Available with extended Temperature range
- 2 Additional input/output pins
- DC3.3V power, Average working current ≈5mA(330ms tick card detection mode)

PIN Definition:



Compatible Connector type :

MOLEX: 53780-0670

HCTL: HC-CB1.25-6AWT

UART interface:

PIN	Signal	I/O Type	Description
PIN1	TX	IO	Serial port transmit pin
PIN2	RX	IO	Serial port receive pin
PIN3	GND	PWR	Power GND
PIN4	VDD	PWR	3.3V
PIN5	D+	IO	GPIO
PIN6	D-	IO	GPIO

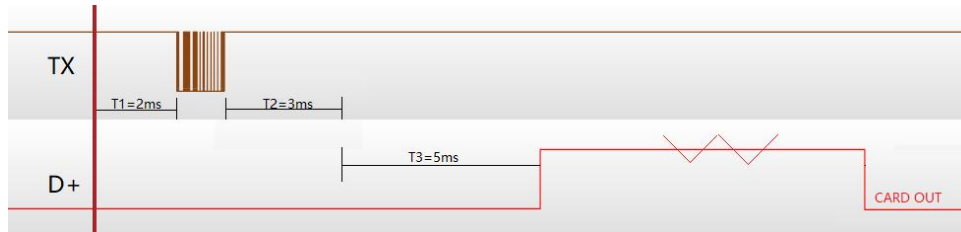
Key technical data:

Product features	Description
Host interfaces	Serial Uart up to 115200 bit/s (default) 2 USER defined GPIO
Carrier frequency	13.56 MHz
Baud rates	up to 424 kbit/s
Reader / writer	ISO/IEC 14443 A&B MIFARE (Classic, UltraLight, DESFire, Plus) NFC Forum Tag Type support FeliCa
Peer-to-peer(select-able)	ISO/IEC 18092 (active and passive)
Card emulation(select-able)	ISO 14443 A Type2 tag
Supply voltage	2.6 - 3.6 V (3.3V version)
Average current	<5mA(330ms tick card detection mode)
Max Module current	<75mA(with no metal and card)
Operation temperature	-20℃ to +85℃
Software	Examples code (C#, C++, android java)

NOTE:Flash capacity limited, not all features met at the same time

A Trigger Power-up EXAMPLES use D+ PIN:

- Use a Mifare classic card as a User card
- Use Pin D+ to trigger an interrupt(to wake-up the user hardware)
- Use Uart interface(TX pin) to send out the card ID



ORDER INFORMATION:

Model	Size	Con	Interface	Power	Other
B22	3730	4P	T(UART TTL)	33(3.3V)	N (Card Mode Enable,NDEF)
	1938S	6P	U(USB HID)	50(5V)	M(FM1208 card function)
					D (DesFire Card function)
					A (Mifare One Card function)

Example1: B22-1938S-6P-T-33-A (3.3V version with M1 card function)

Example1: B22-1938S-6P-T-33-N (3.3V version with card emu function)

Example2: B22-3730-6P-T-33-A (3.3V version with Mifare One function)

Example3: B22-3730-4P-T-50-D (5V version with DesFire function)

FCC statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

- If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden.

This module is applicable to FCC Part 15.225. It also meets the testing requirements of part 15B.

FCC Statements

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

The modular can be installed or integrated in mobile or fix devices only. This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden.

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2A769-B22-1938S Or Contains FCC ID: 2A769-B22-1938S"

When the module is installed inside another device, the user manual of this device must contain below warning statements:

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
 - (2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

The host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

The end user manual shall include all required regulatory information/warning as shown in this manual, include:

This product must be installed and operated with a minimum distance of 20 cm between the radiator and user body.