

RFID / NFC Card

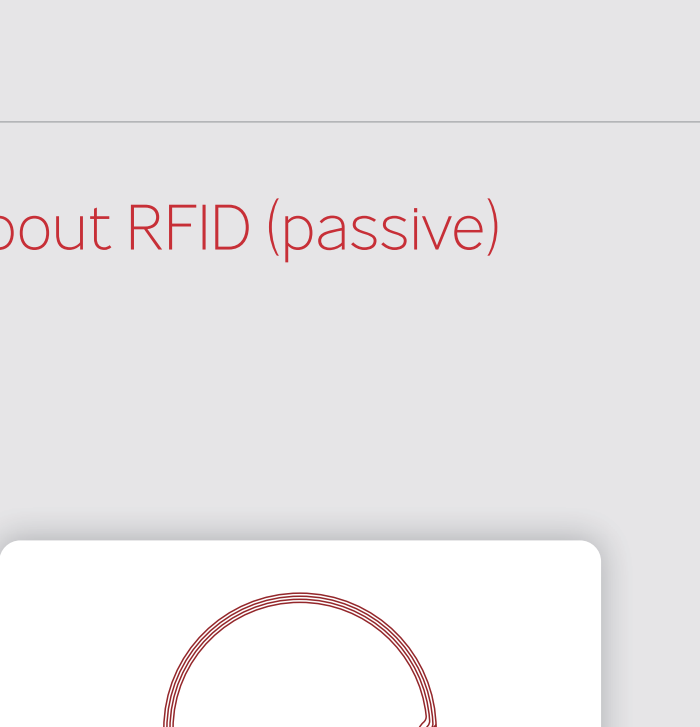
RFID (Radio Frequency Identification) card is a contactless smart card with RFID chip and antenna embedded inside. You can never tell what you hold is a normal PVC card or a RFID card just from the appearance.

We provide passive RFID card for various application such as payment, access control, identification, transportation, etc.



RFID card is working together with a RFID reader and the system.

When the reader reads or writes the RFID card, reader will send 2 parts of signals; one part is sent to the card, RFID card receive the signal and synthesize with the L/C to generate an instantaneous energy for supplying the RFID chip; the other part will order the RFID chip to change and store the data, and return to the reader, in order to complete the reading / writing operation.



Things you need to know about RFID (passive)

Frequency

3 frequencies:

LF (Low Frequency) 125 KHz or 134.2 KHz

Protocol: ISO 11784 / 11785

Short reading range, around 1-5 cm

Available for read only or readable and writable

Signal is rather stable, data speed is low

Can read one tag only at one time



Usually used for access control and animal identification

HF (High Frequency) 13.56 Mhz

Protocol: ISO 14443A / 14443B / ISO 15693

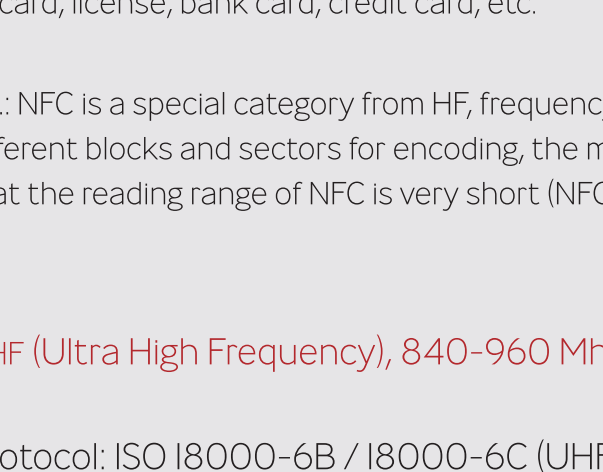
Short reading range, around 2-10 cm (ISO 15693 RFID cards & tags could reach up to around 1 meter)

Readable and writable

Available for encryption, some support AES-128

Signal could be influenced by metal, data speed is regular

ISO 15693 is anti-collision (multiple tags could be detected at one time)



Suitable for high-security projects like financial, anti-counterfeiting, ID card, license, bank card, credit card, etc.

PS.: NFC is a special category from HF, frequency is the same, 13.56 MHz but protocol is ISO 18092. Not like RFID has different blocks and sectors for encoding, the main feature of NFC is it's NDEF format. And you can tell from its name that the reading range of NFC is very short (NFC is short for Near Field Communication).

UHF (Ultra High Frequency), 840-960 Mhz

Protocol: ISO 18000-6B / 18000-6C (UHF Class I Gen2)

There are 2 standards that UHF often uses;

Europe: 865-868 MHz

North America: 902-928 MHz

Different countries will apply different standard as per the country's related policy (for readers only, tags and cards are not limited by these 2 standards)

Long reading range that could reach up to 15 meters

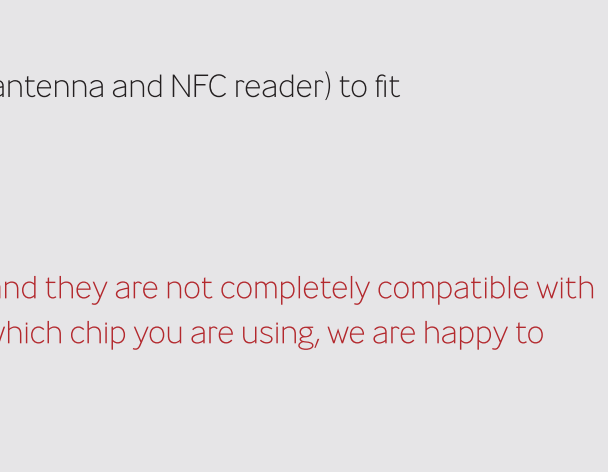
Readable and writable

Available for encryption, some supports AES-128

Signal could be easily influenced by metal, water, wall, human body, etc.

Data speed is high

Anti-collision (multiple tags could be detected at one time)



Suitable for projects which require long-range reading, such as vehicle management, warehouse management, garments sorting, logistic tracking, etc.

Correspondently, there are 3 types of RFID readers to read and write the 3 different types of RFID card and tag; NFC card and tag should be read/ written by an NFC reader.

PS.: Nexqo also provides basic RFID and NFC devices (RFID reader, RFID UHF antenna and NFC reader) to fit clients' requirements.

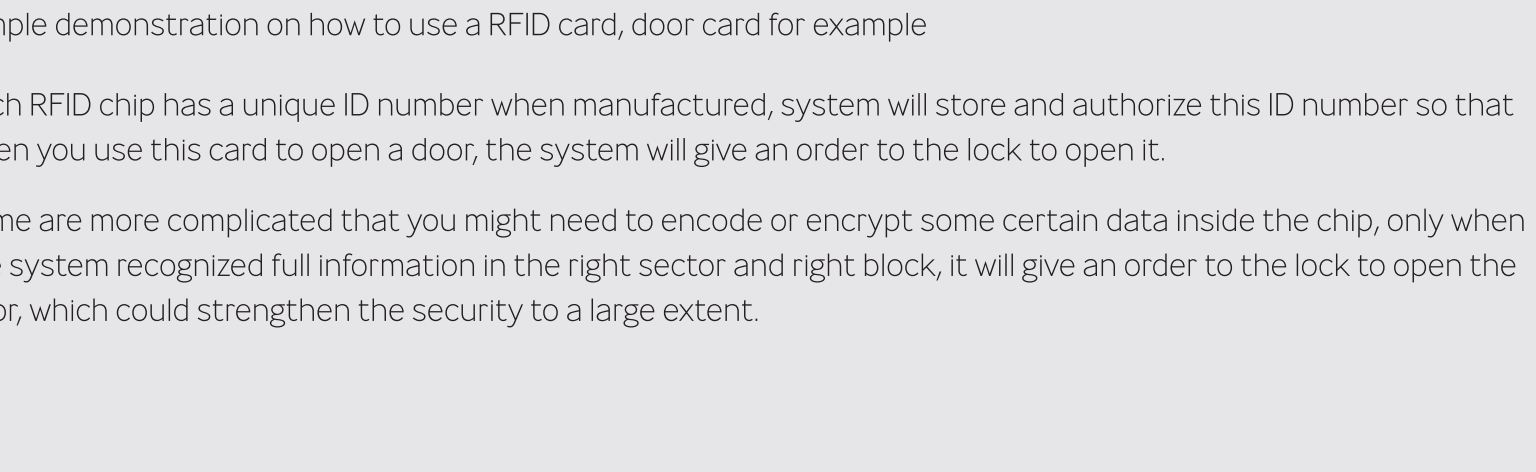
IMPORTANT NOTICE:

There are many different chip types with the same frequency and protocol, and they are not completely compatible with the system, also, price differs a lot for different chips. So, if you are not sure which chip you are using, we are happy to receive a sample card for testing.

Things you need to know about RFID card & NFC card

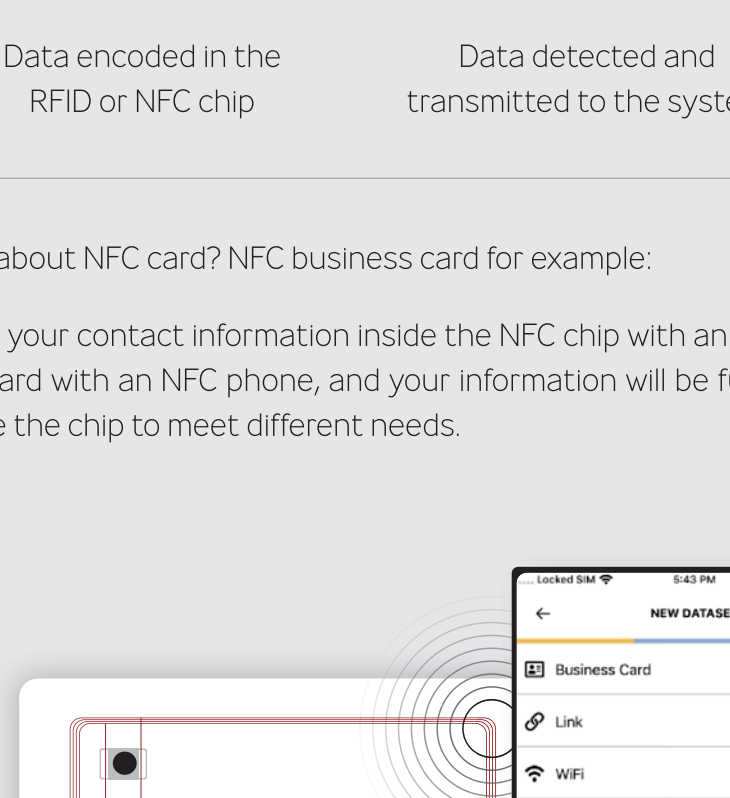
Dimension

Regular size is CR80, other sizes can be customized



Structure

Up to 5 layers:

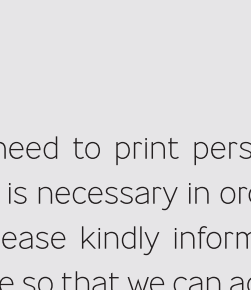


- Overlay (optional)
- Printing layer (front)
- Middle layer (prelam)
- Printing layer (back)
- Overlay (optional)

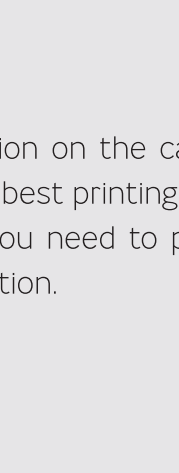
Simple demonstration on how to use a RFID card, door card for example

Each RFID chip has a unique ID number when manufactured, system will store and authorize this ID number so that when you use this card to open a door, the system will give an order to the lock to open it.

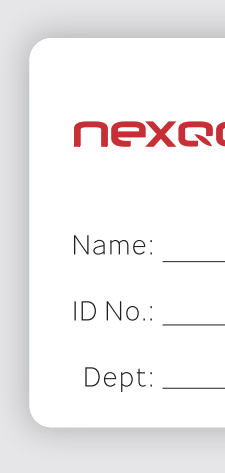
Some are more complicated that you might need to encode or encrypt some certain data inside the chip, only when the system recognized full information in the right sector and right block, it will give an order to the lock to open the door, which could strengthen the security to a large extent.



Data encoded in the RFID or NFC chip



Data detected and transmitted to the system



Data identified, system unlocks the door.



Door opens successfully

How about NFC card? NFC business card for example:

Write your contact information inside the NFC chip with an NFC smart phone (you will need an app named "tag writer"), tap the card with an NFC phone, and your information will be fully presented on the screen. You can also write URL, text, SMS inside the chip to meet different needs.



NFC
Short reading range, around 5 cm
Readable and writable
Available for encryption
Signal could be influenced by metal, regular data speed
Can read one NFC tag only at one time
Normally used for payment or anti-counterfeiting.

If you need to print personalized information on the card, an overlay is necessary in order to ensure the best printing effect. Also, please kindly inform us which part you need to print in advance so that we can adjust the chip position.



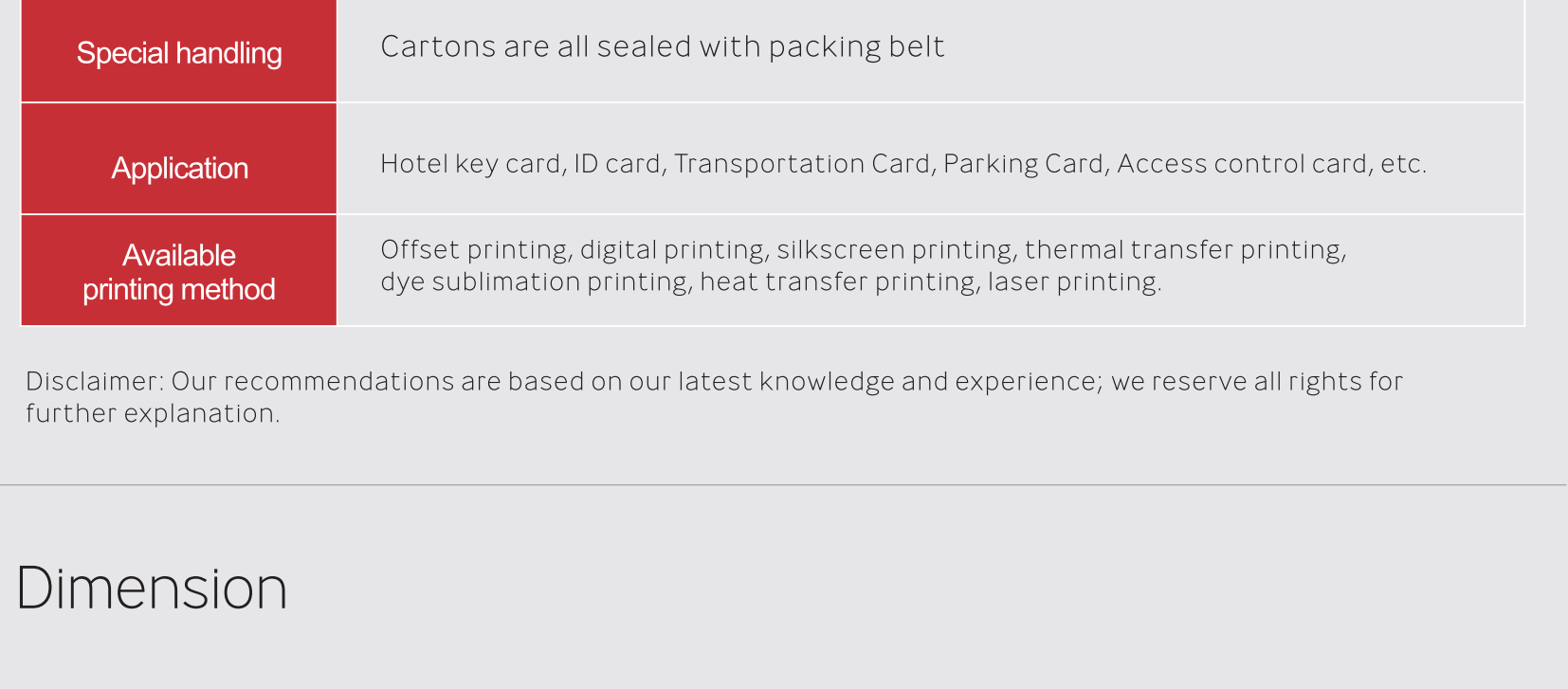
Attention: UID and TID of RFID and NFC chip is unchangeable, we don't provide changeable UID RFID or NFC cards.

Nexqo provides hybrid (dual frequency) RFID cards, common combination could be as follows;
1.LF + HF/NFC
2.HF/NFC + UHF
3.LF + UHF
4.LF/HF/NFC/UHF + magnetic stripe

Usually, HF and NFC will not be combined into one card because they are the same frequency, you might be confused by which chip is actually being detected.

Need something special? [Contact us](#) for more details.

Check the image below to see what options we can make for the finishing?

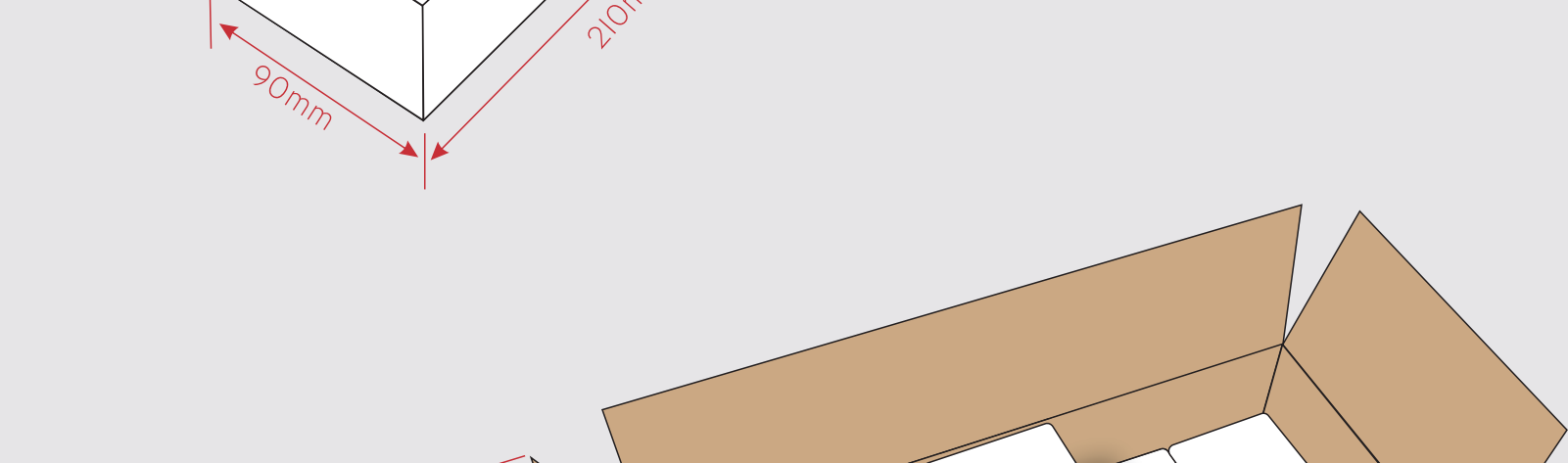


Parameter

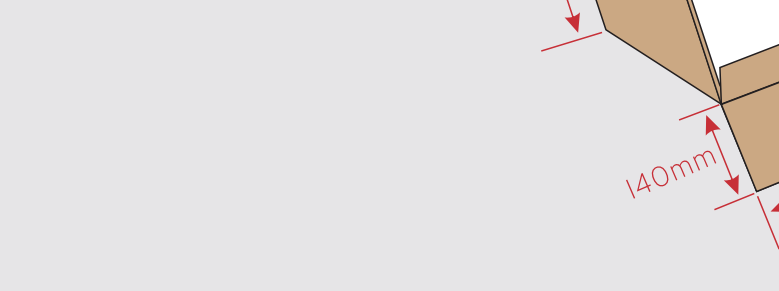
Product Name	RFID Card
Material	PVC, BioPVC, PET, Transparent PVC, Paper
Size	CR80 or customized
Working humidity	5%-95%
Working temperature	-20°C to +85°C
Data retention	10 years
Handling Precautions	Do not bend
Packing format	1) Piece by piece 2) 200 pcs per sealed poly bag, packed in a cardboard box.
Packing quantity	2000 pcs/carton. Customized packing requirement is available.
Packing details	10 boxes/carton (actual quantity please follow the shipping mark) CTN size: 48*23*14 cm, weight: 13 Kg
Special handling	Cartons are all sealed with packing belt
Application	Hotel key card, ID card, Transportation Card, Parking Card, Access control card, etc.
Available printing method	Offset printing, digital printing, silkscreen printing, thermal transfer printing, dye sublimation printing, heat transfer printing, laser printing

Disclaimer: Our recommendations are based on our latest knowledge and experience; we reserve all rights for further explanation.

Dimension



Packaging



200 pcs / box
GW: 13 kg

10 boxes / carton
GW: 13 kg

