springcard®

YOUR EXPERT IN CONTACTLESS SOLUTIONS

SpringCard's RFID & NFC Antennas

SPRINGCARD'S CONTACTLESS READERS & ANTENNAS

The antenna is a key component of a 13.56MHz RFID/NFC system.

Most of our OEM couplers and smart readers feature our 69x45mm antenna, which provides the best performance/size ratio when used with standard contactless cards (ID-1 format, ISO 14443-1 classes 1 to 6).

For any project involving very small tags, large NFC objects (including NFC «phablets»), or where a large operating volume is better for the user experience, choosing the appropriate antenna is the shortest path to succces.

NEED A CUSTOM ANTENNA? ASK THE EXPERT!

Some integrations are so constraint in terms of size or position of the antenna that it must adopt a very specific shape or tuning.

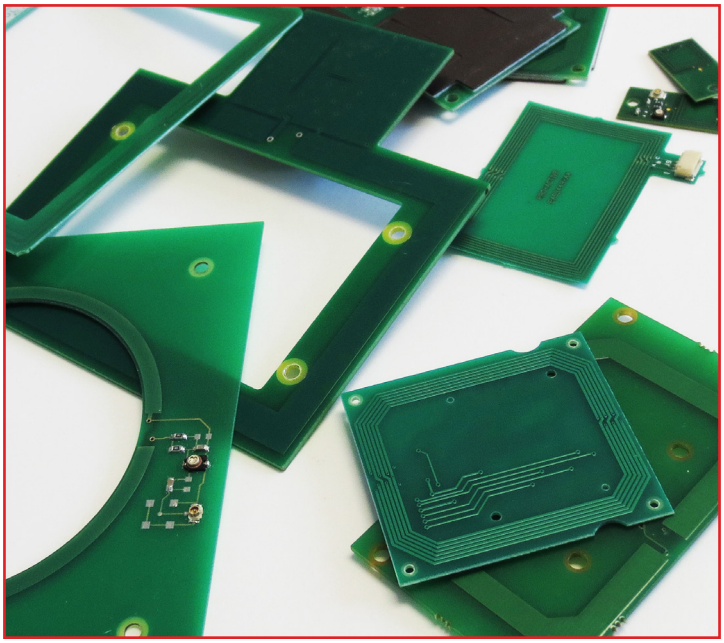
Designing such an antenna can't be improvised. SpringCard's engineers master that subject and will be glad to help you finding the best solution according to your requirements.

TIPS

The best compromise between performance, consumption and cost is typically reached when both reader's antenna and NFC object's antenna (whether it is a card, a tag, a RFID label, or a phone) are more-or-less the same size.

The electromagnetic environment (metal or PCB in the nearby, other electronic devices) also has a strong impact on the distance and operating volume that could be reached for a given energy level.

Working with SpringCard opens up the scope of possibilities



SPRINGCARD'S ANTENNAS PORTFOLIO

The table below lists our out-of-the-shelf antennas.

Type	Dimensions	Order code
Symmetric	69x45mm	SC14358 default antenna of the TwistyWriter
Symmetric	20x85mm	SC14360
Symmetric	102x102mm	SC14359
Symmetric	146x78mm	SC15387
Asymmetric	69x45mm	SC0263 default antenna of the CrazyWriter

Need a balanced or unbalanced antenna ?

UNBALANCED (ASYMMETRIC)	BALANCED (SYMMETRIC)
The antenna is made of a single coil and a ground layer for shielding	The antenna is made of two coils. One turns clockwise, the other anti-clockwise
A 50Ω matching circuit is required to connect the antenna to the reader through a single-core coaxial cable	There's no matching circuit. The antenna is connected to the reader using 3 lines: P, M and Gnd (ground)
Thanks to the coaxial cable, the distance between the reader and the antenna may reach 1.5m	We recommand using 2 twisted pairs (P+Gnd, M+Gnd). The cable shall be no longer than 30cm
Due to the tolerances on the PCB, a trimming capacitor is required to achieve the exact match	No trimming and no shielding are required
In some situations, the trim may also be used to adapt the antenna's tuning to a particular environment (conductive materials in the nearby)	A balanced antenna offers better performances than an unbalanced antenna of the same size and is easier to design
RELATED PRODUCTS	
CrazyWriter-HSP is a typical example of a contactless coupler with a remote unbalanced antenna	TwistyWriter-HSP is a typical example of a contactless coupler with a remote balanced antenna
Choose H663A module if you plan to use a custom unbalanced antenna	H663-USB also has a balanced antenna (but not remote)
	Choose H663S module if you plan to use a custom balanced antenna

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