FlexICs

Ultra-low-cost NFC for RFID systems

Introducing Pragmatic

Pragmatic is revolutionising semiconductor technology, redefining the parameters of connectivity and sparking cross-sector innovation. Our uniquely flexible chips deliver low-cost, low-carbon intelligence at scale to fuel AI models and power the Internet of Everything.

The FlexIC Foundry® delivers rapid, high-volume fabrication with a high level of customisation, taking designs from tape-out to delivery in just four weeks.

Want to know more?

Contact sales@pragmaticsemi.com

Pragmatic FlexICs

FlexICs are ultra-thin and physically flexible. Embedded directly into packaging, they are imperceptible to the touch, don't encroach on product branding, and can't be covered or replaced. A unique ID ensures they can't be duplicated or tampered with, and their low cost makes them ideal for deployment at scale.

Ultra-low cost

Ideal for integration into mass-market items

Thin, flexible and robust

Imperceptible within labels or packaging

Customisable payload format

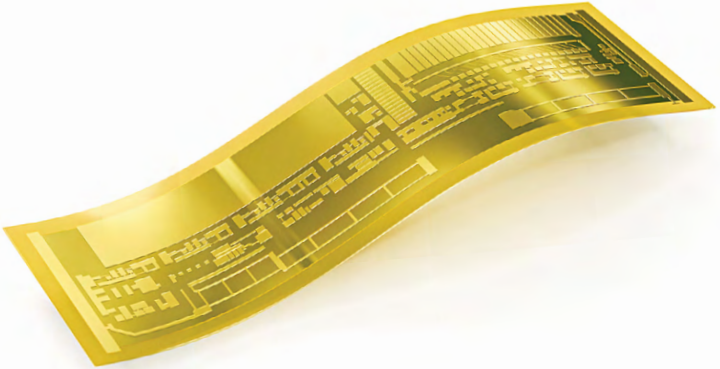
For personalised customer experiences

Easy integration

For paper or plastic inlays, with no impact on line speed

Fast transmit times

Delivering swift, seamless interaction



Key applications

Consumer engagement

Transform customer relationships with smooth, interactive engagement – accessible with a single tap of a smartphone. Discreet and protected, embedded FlexICs give instant access to dynamic, personalised content, helping to drive loyalty and make every touchpoint a richer experience.

Authentication

Enabling secure verification of products with a simple tap, FlexICs ensure authenticity, combat counterfeiting, and build consumer trust. Embedded into products or packaging, their unique ID cannot be replicated or replaced, and their ultra-thin form factor provides low-profile protection that can't easily be damaged in transit.

Tamper detection

Strengthen brand trust and build consumer confidence with FlexIC tamper-detect functionality. One-tap verification ensures product integrity, providing real-time assurance of authenticity and safety. Accessible and effective for a wide range of products, their low carbon footprint makes them ideal for use in high-value goods.

Pragmatic NFC Connect PR1301

The Pragmatic NFC Connect PR1301 is designed for HF RFID near-field communication (NFC) applications. It comprises a read-only memory (ROM) transmitting over a 13.56MHz interface, in half-duplex mode, according to the NFC Forum Type 5 standard.

Flexible and robust, the FlexNFC PR1301 is designed to be used with single-sided antennas. It is compatible with NFC-enabled Android and iOS smartphones, removing the need for a dedicated field reader.

Characteristics

NFC mode	ISO 15693
Operating frequency	13.56 MHz
Typical data transfer rate	26 kbps
Communication protocol	Half duplex
Data format	NDEF
Reader compatibility	NFC-enabled Android and iOS
Total memory	96-byte LPROM
Error detection	16 bit CRC
Type	Passive
Bond pads	Two
Thickness	~ 37 µm
Compatible antenna	HF coil with or without crossover

Flexible intelligence

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