Product brief

NFC Connect PR1301

Unlocking the power of ubiquitous intelligence

Pragmatic NFC Connect PR1301 is designed for HF passive RFID Near-Field Communication (NFC) applications. It comprises a Read-Only Memory (ROM) transmitting over a 13.56 MHz NFC interface, operating in half-duplex mode, according to the NFC Forum Type 5 standard, and conforming to ISO/IEC 15693.

Key features

- Low cost
- Ultra-thin
- Flexible and robust
- 96-byte user memory
- iOS, Android and enterprise reader compatible

Key benefits

- Ideal for integration into mass-market items
- Suitable for paper or plastic inlays
- Imperceptible to touch within labels or packaging
- No impact on packaging and labelling line speed
- Compatible with NFC-enabled mobile devices

Target applications

- Consumer engagement
  - Smart packaging
  - Retail displays
- Authentication
  - Product verification
  - Brand loyalty
- Traceability
  - Inventory management
  - Asset tracking

Target markets

- FMCG
- Healthcare and medical
- Toys and games
- Apparel

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Seamless integration into existing workflows

NFC Connect PR1301 is designed to be used with single-or double-sided antennas. Large bond pad sizes allow for more relaxed placement and bonding tolerances, enabling more tag design freedom. This FlexIC is compatible with both conventional pick-and-place inlay assembly machines and higher throughput parallel assembly. A pre-encoded payload delivers increased line speeds versus other NFC chip solutions.

Key characteristics

NFC interface	ISO15693 / NFC Forum NFC-V (Type 5)
Operating frequency	13.56 MHz
Data transfer rate	26.48 kbps
Communication protocol	Half duplex
Data format	NDEF (NFC Data Exchange Format)
Reader compatibility	NFC-enabled Android and iOS smartphones, NFC enterprise readers
User memory	96-byte LPROM
Error detection	16-bit CRC
Bond pads	Two large pads (can act as a bridge)
Chip thickness	~37 µm
Chip dimensions	3 x 2 mm
Compatible antenna	HF coil with or without crossover, single or double sided, aluminium
Enterprise reader settings	Interface: ISO 15693, Modulation: 100% ASK, Bit rate: 26.48kbps

About Pragmatic Semiconductor

Pragmatic Semiconductor is pioneering flexible semiconductor technology, sustainably delivering edge and item-level intelligence at scale.

The FlexIC Foundry operates a unique and innovative process offering sustainable production and rapid innovation cycle times, coupled with a pathway to supply chain resilience.

Driven by optimised, purpose-led design, our ultra-thin FlexICs – flexible integrated circuits – empower innovators with connect, sense and compute capabilities to bridge our digital and physical worlds.

Want to know more? Contact sales@pragmaticsemi.com

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