



SIC43S1

NFC Product Authentication

REV 0.1

Features Summary

The SIC43S1 is an NFC Forum Type 2 tag configured to be compatible with the dynamic NDEF format. It is also equipped with AES-128 (Advanced Encryption Standard), which provides secure authentication and data encryption for high-security purposes.

Highlight Features

- NFC forum type 2 tag
- Dynamic NDEF message which contains UID, and a secure rolling code called Secure Authenticated Code (SAC)
- Three modes of AES128-based security
 - NDEF authentication – Manufacturing configuration for CMAC or OCB mode
 - Mutual Authentication
 - Encrypted communication

Interfaces and Peripherals

- RF interface based on ISO/IEC 14443A - 106 kbps
- True anti-collision
- On-chip capacitance 50 pF

Memory

- Factory programmed 7-byte UID
- Lock bytes with anti-tearing protection
- 816-byte user memory
- Dedicated memory section for configuration: authentication, and rolling code configuration
- Dedicated memory for timestamp
- EEPROM organization enabling NDEF TLV messages
- EEPROM erase/write cycle up to 100,000 times
- EEPROM memory retention up to 10 years

Operating Conditions

- 13.56 MHz operating radio frequency
- Operating temperature from -40 to 85°C

Package

- Die-On-Wafer with Au-Bump

Development Kit

- SIC43S1 Development Kit: PS1BK00000000S1D0CB

Development Kit and Support Material

- Demo Android APP and Source Code
- Reference PCB Design and Schematic Diagram
- Reference Antenna and Antenna Design Tool

Applications

- Item-Level NFC Label or Sticker with Authentication Function
- Smart packaging
- Vouchers and coupons
- Product authentication
- High-security access control
- NFC-wakeup devices and appliances
- Bluetooth and Wi-Fi pairing
- Smart Toys