SONY

# FeliCa Lite-S
# Contactless IC Card Chip

# RC-S966

**The "FeliCa™ Lite-S: RC-S966" product is a small-size contactless IC chip with streamlined security function and an optimized file system.**
**"FeliCa Lite-S" can be used for any NFC Forum Type 3 Tag solution, such as handover connection and smart poster, in combination with any NFC device.**

Small & Thin | Mutual authentication | NFC Type 3 Tag

* The image printed on this card is only a sample.

## FEATURES

### • Mutual authentication utilizing MAC*1

"FeliCa Lite-S" has read-access control and write-access control functionality due to the use of MAC to prevent any unauthorized access. The function to generate a MAC on “FeliCa Lite-S” makes it possible to carry out streamlined mutual authentication between the product and the reader, supporting secure application development.

*1 MAC: Message Authentication Code

### • NFC Forum Type 3 Tag

"FeliCa Lite-S" supports Type 3 Tag operation, as defined by the NFC Forum. Therefore, the chip can communicate with standard NFC smartphones and readers. The user memory of 224 bytes is sufficient for most NFC-tag applications and usages.

### • Several access attributes on a simple file system

The chip uses a simple file structure that has no hierarchical structure. It supports the following access attributes for each user block separately.

- Read Only Access
- Read / Write Access
- Read After Authentication
- Write After Authentication
- Write With MAC

### • Fast transaction speed

The RC-S966 product supports simultaneous 64-byte data-read and simultaneous 16-byte data-write operations, together with a 212- / 424-kbps data-transfer rate.

### • Anti-tearing transaction function and data integrity-check function

"FeliCa Lite-S" has anti-tearing transaction functionality to prevent incomplete data update. Even if a data error occurs in the chip, there is CRC data check code for every data block (16 bytes), so the data error can be detected.

### • A software development kit, "SDK for NFC", is available

Software Development Kit “SDK for NFC” is available to develop applications for “FeliCa Lite-S” and Sony NFC readers. The technical documents of “FeliCa Lite-S” for application development are also downloadable from the website at www.sony.net/Products/felica/business/tech-support/.

## APPLICATIONS

**NFC handover**
Bluetooth, Wi-Fi, etc

**ID**
Company ID, Student card, etc

**Loyalty program**
Loyalty points, Gift card

**Transportation**
Single-journey ticket

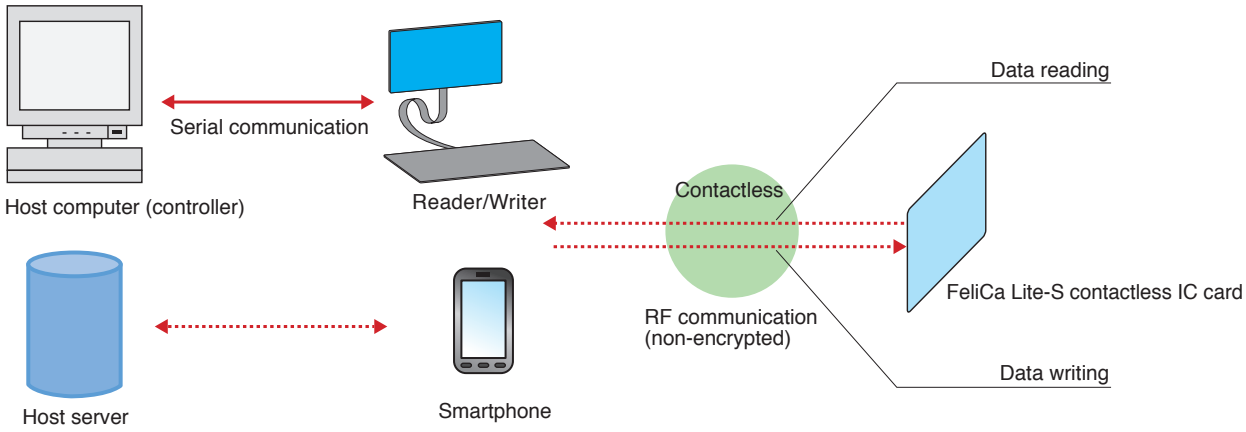
**Entertainment**
Event ticket, Game card

## PRODUCT SPECIFICATIONS

| | FeliCa Lite-S IC chip (RC-S966) |
|---|---|
| **Communication method** | Compliant with ISO/IEC 18092 (212 kbps / 424 kbps passive communication mode) |
| **Operating frequency / Modulation/Bit coding** | 13.56 MHz / ASK modulation / Manchester encoding system |
| **Communication speed** | Supports automatic 212 / 424 kbps switching |
| **Memory size** | 14 blocks + 1 subtraction block (1 block=16 byte) |
| **Card segmentation** | No |
| **Authentication method between card and reader / writer** | Streamlined mutual authentication*1 with T-DES |
| **Channel encryption** | No |
| **Read access control** | Yes |
| **Write access control** | Yes |
| **Supported commands** | Non encryption commands (Polling, Read Without Encryption, Write Without Encryption) |
| **Operating temperature** | -25 °C to +100 °C<br>(Quality and reliability are assured when the operating temperature is within the range of -25 °C to + 85°C.) |
| **Storage temperature** | -55 °C to +125 °C |

*1 Different from mutual authentication used for FeliCa Standard IC chip

## TYPICAL SYSTEM LAYOUT

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Note that ™ and ® symbols are sometimes purposely omitted from this text.


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