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.

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

**Small & Thin**   **Mutual authentication**   **NFC Type 3 Tag**

## 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 Technical Information website.

FeliCa

## APPLICATIONS

| NFC handover | ID | Loyalty program |
|---|---|---|
| Bluetooth®, Wi-Fi, etc | Company ID, Student card, etc | Loyalty points, Gift card |

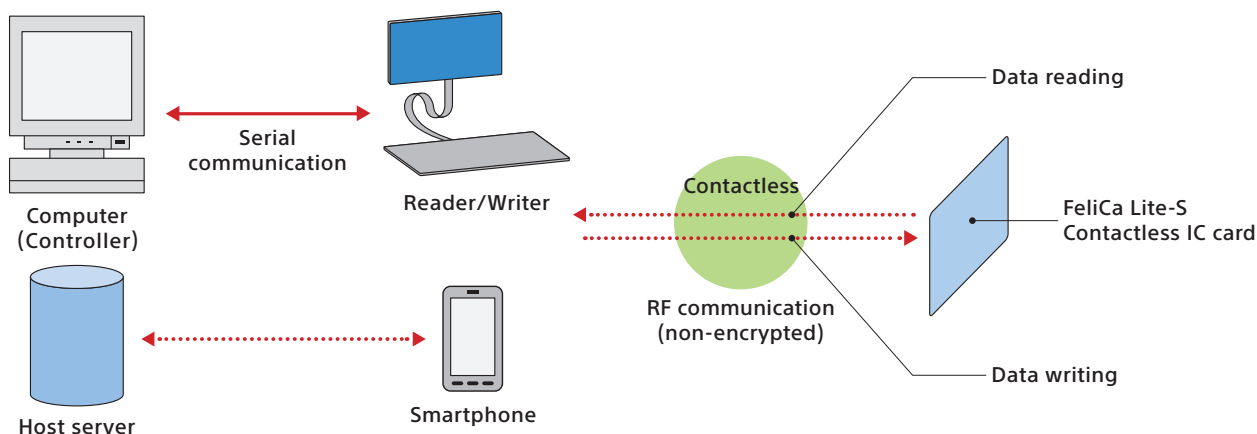| Transportation | Entertainment |
|---|---|
| Single-journey ticket | Event ticket, Game card |

## PRODUCT SPECIFICATIONS

| | RC-S966 |
|---|---|
| Communication method | Conforms to 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 bytes) |
| System Separation | 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 (Quality and reliability are assured when the operating temperature is within the range of -25 °C to +85 °C.) |
| Storage temperature | -55 ℃ to +125 ℃ |

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

**For technical documents about this product, see "Technical Information" on the FeliCa website: sony.co.jp/en/Products/felica/business/tech-support/**

## TYPICAL SYSTEM LAYOUT