SONY

The RC-SA21 contactless IC chip provides backward compatibility with existing FeliCa™ Standard IC chip products (RC-SA01 series), while adding several new features.

∗ FeliCa Standard SD2：The 2nd generation of the IC chips and their products of FeliCa Standard products which support AES encryption.

| EAL6+ Common Criteria | Multi-application | Extended Overlap Service / Additional security options |

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

FEATURES

[Inherited features]

Highest level of security for contactless smartcard IC chips

The IC chip supports the AES encryption method and provides high security. With its state-of-the-art tamper-resistant technology, it has acquired the very high assurance level of EAL6+, in accordance with ISO/IEC 15408 Common Criteria certification, an international standard for security (Certificate issue date：2021/10/26, Certificate expiry date：2026/10/26). The IC chip also complies with Public Transportation IC Card Protection Profile (PTPP).

Multi-application platform with higher performance and reliability

Higher transaction speed is achieved for every type of card application, such as transportation ticket and e-payment. In addition, the IC chip achieves lower power consumption than the current FeliCa IC chips.

Communication with NFC Forum-compatible readers

The chip complies with Type 3 Tag functionality defined by the NFC Forum. Therefore, a card with the chip can communicate with NFC-compatible smartphones and readers.

[New features]

Additional security options to meet market needs

In addition to the encryption and integrity protection of communication data in the current secure communication function, a security option that supports only integrity protection of communication data has been added. This extends the choice of cost-balanced system solutions for use cases where higher priority is given to high-speed transactions, while meeting the required security needs.

Extended Overlap Service

This feature allows different service providers to share additional services, while making the most of existing systems.

Value-Limited Purse Service

Value-Limited Purse Service enables the purse data to be set as a negative numerical value, and enables "Upper Limit Value" and "Lower Limit Value" to be specified.

FeliCa

PRODUCT SPECIFICATIONS

	RC-SA21
Communication method	Conforms to ISO/IEC 18092 (212 kbps or 424 kbps Passive communication mode)
Operating frequency	13.56 MHz
Communication speed	212 kbps and 424 kbps automatically switchable
Supported encryption	AES encryption AES-MAC authentication
Supported commands	AES-encrypted commands Communication-with-MAC commands Non-encrypted commands
Non-volatile memory — **Size**	4 Kbytes
Non-volatile memory — **User memory**	160 blocks (1 block = 16 bytes)
Non-volatile memory — **Data retention period**	50 years (25 ℃), 10 years (85 ℃)
Non-volatile memory — **Access endurance**	10^{13} times (25 ℃), 10^{13} times (85 ℃)
Operating temperature	-25 ℃ to +100 ℃ (Quality and reliability are assured when the operating temperature is within the range of -25 ℃ to +85 ℃.)
Storage temperature	-55 ℃ to +125 ℃

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

TYPICAL SYSTEM LAYOUT
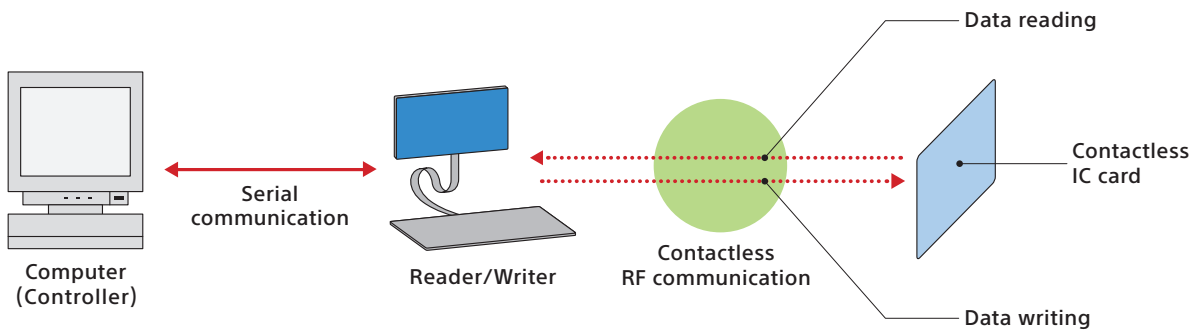
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