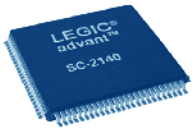
LA-11-005c-en [08.2006]

advant

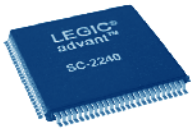
advanced contactless smart card system

LEGIC®
advant innovation in ID technology



LEGIC OS Controller
SC-2140 / SC-2140C

LEGIC RF chip



LEGIC OS Controller
SC-2240 / SC-2240C

LEGIC RF chip

Security Chip Set

SC-2140/SC-2140C proximity
SC-2240/SC-2240C vicinity

The cost efficient and flexible solution for 13.56 MHz contactless smart card readers.

The Security Chip Sets vicinity SC-2240 und SC-2240C* support ISO 15693 while the Security Chip Sets proximity SC-2140 and SC-2140C* support ISO 14443 A. All chip sets can be operated simultaneously with the LEGIC RF standard, ensuring backward compatibility with LEGIC prime.

* Option SC-2140C and SC-2240C: incl. cash handling functions for e-payment solutions

The cost-efficient Chip Sets SC-2x40 consist of the LEGIC OS Controller and the LEGIC RF chip. Design-in is made easy due to the available reference design and the development kit, giving a high degree of design flexibility and comfort. The format generator enables seamless integration into present installations, supporting various protocols. Advanced high security features and various host interfaces offer a comprehensive base for economical and targeted single-ISO standard applications.

Standards

ISO
LEGIC RF standard
13.56 MHz contactless technology

Typical use

- Single-ISO RF standard and cost-sensitive readers
- Low power applications
- Compact or mobile readers

Key applications

access
time & attendance
payment

Key features

- ISO 14443 A / LEGIC RF std., resp. ISO 15693 / LEGIC RF std. compliant
- Wide choice of industry standards (RF, data formats, interfaces)
- Quick integration, easy realized multi-applications
- High security and MTSC – configurable for each application

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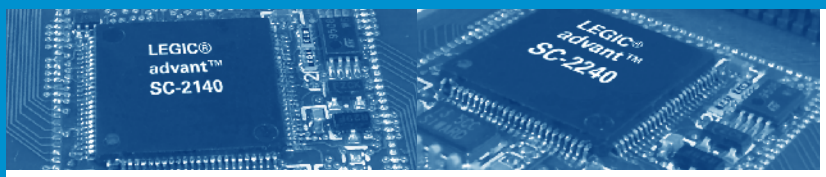

Features

- **RF standards:** simultaneous operation of ISO 15693 and LEGIC RF standard (SC-2240/C) or ISO 14443 A and LEGIC RF standard (SC-2140/C), reads transponder UID based on Inside Contactless technology, e.g. HID iClass
- **Reading/writing of transponders:** secure and contactless
- **Communication range*:** up to 10 resp. 15 cm with standard circuit design
- **Host interfaces:** various protocols
- **Application interfaces:** flexible data format generator for Wiegand and OMRON (ABA, Clock & Data)
- **Data transmission:** encrypted along complete data path from transponder memory via RF interface to external host system (end-to-end security)
- **Data encryption:** selectable standards for each application
- **Module identification:** unique serial number
- **Reader design:** Reference design and Development Kit for easy and flexible system integration
- **RF wake-up:** watch mode for battery operation
- **Power consumption:** various low power modes, configurable RF power
- **Pin compatibility:** to SC-2560/C series
- **Master-Token System Control:** for authorization, data access and application management
- **Multiapplication:** direct access to specific application; variable segment length and freely selectable segment search criteria
- **Application standards for interoperability:** defined data structures and functions for cash handling, access control, biometrics and others
- **FIPS 201:** reads FASC-N according Transition State Specification (SC-2140/C)
- **Backward compatibility:** with LEGIC prime

Typical applications

access
parking
payment
ticketing
leisure
member-ship
time & attendance
biometrics
IT-access
identify
loyalty
collect data
stand-alone door locks
government standard

Specifications

Carrier frequency	13.56 MHz
Antenna impedance	50 Ohm
Contactless RF standards	SC-2140: ISO 14443 A, LEGIC RF std. SC-2240: ISO 15693, LEGIC RF std., Inside
Range*	SC-2140: up to 10 cm (ISO 14443 A) up to 15 cm (LEGIC RF std.) SC-2240: up to 15 cm
Operating voltage	3.3 to 5 V DC
Power consumption (5 V typical)	185 mA in RF active mode 27 mA in normal operation 30 uA in watch mode < 5 uA in stop mode
Encryption standards	LEGIC encryption, DES, 3DES host authentication/encryption enable

Direct Host interfaces	serial asynchronous (TTL, RS232); SPI
Baud rates (serial)	asynchronous: 9.6 to 115.2 kbit/s SPI: up to 5 Mbit/s
Direct application interfaces	Wiegand, OMRON (Clock & Data, ABA)
Digital input / output	4 input / 4 output
Operating temperature	-40 °C to 85 °C / -40 °F to 185 °F
Conformity	CE, FCC
Casing OS Controller	LQFP100 (14 x 14 x 1.4 mm)
Casing RF Chip	SSOP20 (7.2 x 5.3 x 1.7 mm)

* Max. reading range depends on used RF standard, the requirements of national spectrum management authorities, antenna, reader application, transponder, requested information and surroundings.

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