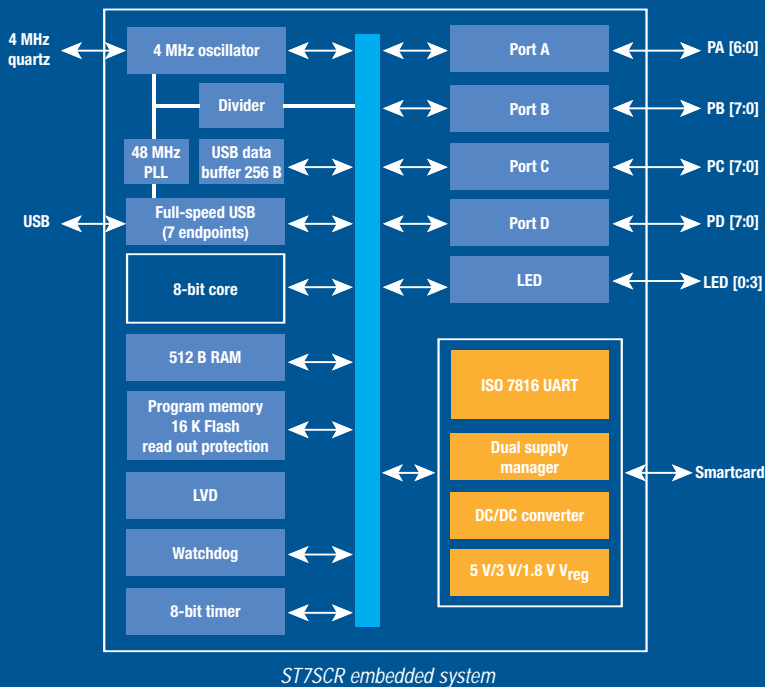


Advanced single-chip solution for smartcard readers

First high-security, low-cost solutions for PC-based smartcard terminals



STMicroelectronics' ST7SCR is the first USB, single-chip solution for EMV* smartcard readers communicating through a serial or USB link. The ST7SCR is ideal for consumer, telecom, PC-linked and PC-integrated applications.

* Europay International, MasterCard International and Visa International

Main features

- ST7 8-bit core-based microcontroller (4 or 8 MHz CPU frequency)
- 16 Kbyte of Flash and ROM memory with read/write protection
- Patented full-speed USB interface
 - Chip card interface devices (CCID) and human interface (HID) USB device classes
- ISO-7816 UART with transmission rate up to 500 Kbps
- 4 kV ESD protection on all ISO pins
- Smartcard power supply management unit (5, 3 and 1.8 V)

Key benefits

- Integrated smartcard analog interface and UART
- Read-out protection
- SO24, LQFP64 and QFN24 packages
- Bare die available in wafer, waffle pack and tape and reel

High security

Not only does the ST7SCR provide an exceptionally high level of security at a low cost, but security can be increased to level 3 through the use of an additional PIN keypad. This makes the ST7SCR the ideal solution for securing on-line transactions in PC or STB environments.

Target applications

Any application requiring a smartcard interface, such as:

- USB tokens for authentication or PKI applications
- Set-top box (conditional access and e-commerce)
- PC-link standalone smartcard reader
- USB keyboard with integrated smartcard reader

Development tools

- Cosmic C compilers
- Real-time emulator
- Flash programming board with in-circuit programming support



Device summary

Part number	Flash	ROM	Programmer (bytes)	RAM (bytes)	Timer functions		Serial interface	LVD levels	I/Os	Packages	Supply voltage	Special features
					8-bit	Watchdog						
ST7SCR1E4	.	.	16 K	768	1	1	USB/ISO7816	1	4	SO24/QFN24*	4.0 to 5.5 V	Smartcard power supply unit Read-out protection 7 full-speed USB endpoints In-circuit programming 4 LED outputs 4 kV ESD protection on ISO pins
ST7SCR1R4	.	.	16 K	768	1	1	USB/ISO7816	1	35	LQFP64		Light ROM version for USB token
ST7LCRDIE6	.	.	16 K	768	1	1	USB/ISO7816 no serial	1	1	DIE		

*QFN24: exists only in ROM version

Tools summary

	C toolchain	IDE/debugger		Emulator	Single programmer	Gang programmer
Software	Third-parties (Cosmic)	ST7 tool package (STVD7) Third-parties (Cosmic)	Hardware	ST7MDTS1-EMU2B	ST7MDTS1-EPB	Third-party (Softec)



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