

SEC1110/1210

Smart Card Controllers with USB, SPI and UART Interfaces

Summary

Microchip's SEC1110/1210 are low-cost, low-power, single-chip Smart Card controllers with USB, SPI or UART interfaces. Using a combination of hardware and software, these devices deliver high performance and flexible design customization options. Both devices utilize Microchip's TrustSpan™ technology which enables digital systems to securely communicate, process, move and store information on system boards, across networks and through the cloud. Up-to-date EMV and USB certifications enhance interoperability with all of the latest and legacy Smart Cards and host operating systems. Ready-to-use USB Chip Card Interface Device (CCID) firmware provides a fast and easy platform to develop custom applications and one-time programmable (OTP) memory offers the flexibility of custom firmware or vendor-specific device data. The OTP memory can be fully or partially programmed by Microchip during chip manufacturing and by the customer during final product assembly. Package options range from a small-footprint 16-pin QFN to our SEC1210 which offers a 24-pin QFN with dual Smart Card interfaces, SPI, UART, LEDs and general purpose IOs for high-value designs. Additionally, Microchip's complimentary and confidential USBCheck™ online design review service is available for customers who select the SEC1110/1210 family for their application design-in.

Target Applications

- PC-Link reader
- User authentication
- Thin/Zero-Client
- Windows® Smart Card login
- Point-of-Sale (POS)
- Counterfeit device detection
- Network access security
- Software licensing keys



Highlights

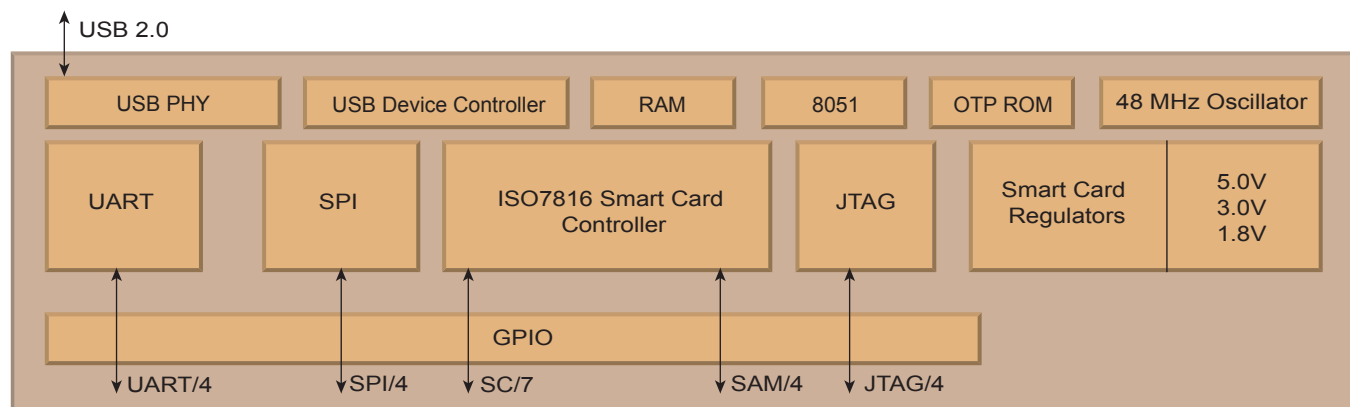
- Single or dual Smart Card interfaces
 - ISO/IEC 7816
 - EMV-certified
- USB, SPI or UART host interface
- Dedicated hardware for performance
- 8051 controller for flexibility
- Low standby and dynamic power
- OTP memory for code and custom configuration data
- Software development kit (SDK) with full source code
- Low BOM cost
 - Single-chip USB solution
 - Class A/B/C—no external level shifter
 - Integrated oscillator—no external crystal
- Customized during chip manufacturing
 - Custom firmware
 - Vendor-specified USB descriptors
 - Unique serial number

Key Features	Benefits
USB-IF certified	Dependable and reliable USB communication
Low < 1 mA standby current	Extended battery life for portable applications
Integrated 48 MHz oscillator	Lower BOM cost
Extremely small package	Efficient PCB board space utilization
Integrated card power control for class A, B, and C Cards	Lower BOM Cost
Integrated USB pull-up resistors	Reduced BOM count and smaller PCB dimensions
Multiple package options	Single code base to support multiple products
OTP memory	Flexible firmware provisioning and device personalization
Up-to-date certification using current testing methods	Interoperability with the latest Smart Cards and host operating systems
Active, advanced design teams	Engagement with Microchip's engineering teams facilitates a faster time-to-market for high-value products

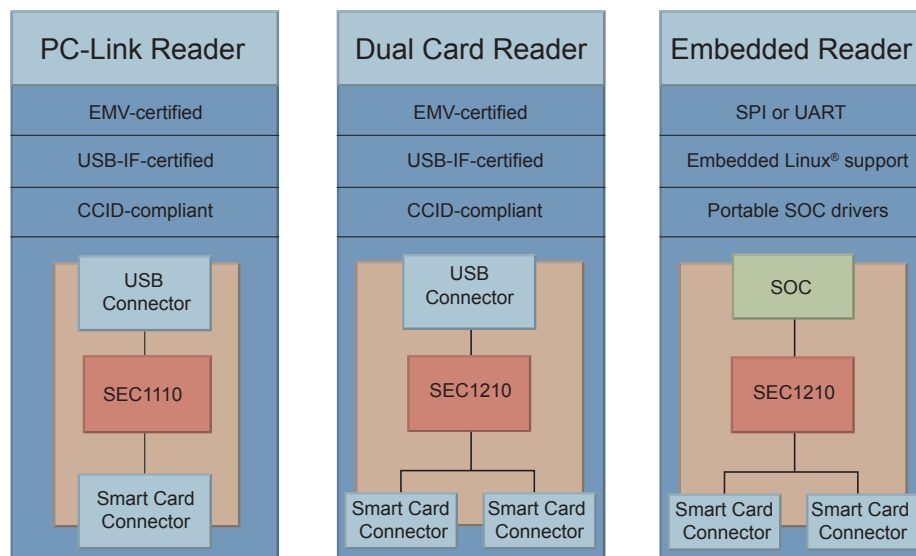


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SEC 1110/1210 Family Block Diagram



SEC1110/1210 Family Application Examples



Which Smart Card Controller is Right for Your Design?

	USB	Smart Card	General Purpose IOs							Standard Microchip Firmware	Pin & Package
			SAM	16550 UART	SPI-1	JTAG	Activity LED	SC1 Detect	SC2 Detect		
SEC1110	✓	✓	–	–	–	✓ Multiplexed			–	✓	16-pin QFN
SEC1210	✓	✓	✓	✓ Multiplexed		✓ Multiplexed				✓	24-pin QFN



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www.microchip.com/trustspan

Visit our web site for additional product information and to locate your local sales office.

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