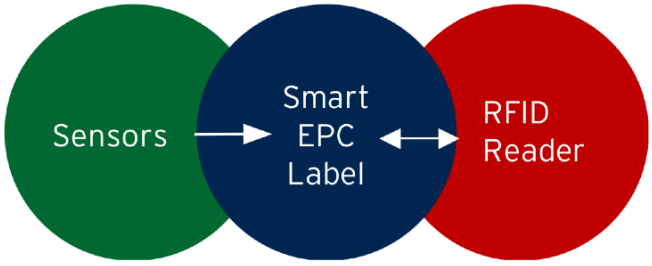
IDS
The RFID Semiconductor Company

SL900A
Single-Chip EPC Data Logger with Sensor
Product Flyer

SL900A Tracks, Monitors and Logs

The SL900A is an EPC Class 3 tag chip enabling affordable RFID automatic data logging applications with sensor functions. This sophisticated chip makes it practical and affordable to automatically track, monitor, time-stamp and record information about any goods in any supply chain or cold chain transport. Furthermore, the SL900A enables vast new applications in areas such as medical, healthcare and environmental supervision.

The SL900A works in semi-passive mode (battery-assisted) as well as in fully passive mode. The chip is ideal for applications using thin and flexible batteries (1.5V or 3V) for autonomous logging from the integrated temperature sensor or external sensors with time-stamp from on-chip real-time clock. The SPI/IO port allows connection of external circuits.

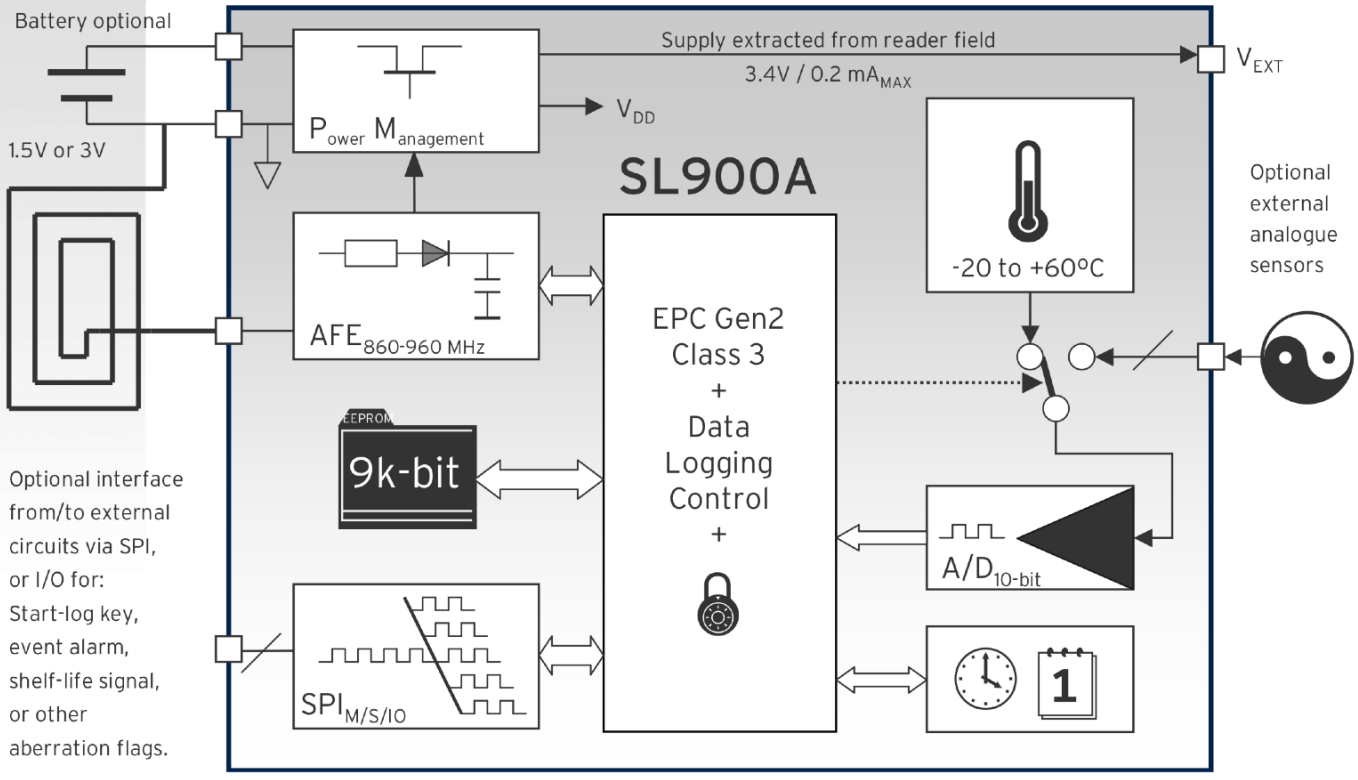


- Enabling affordable cold chain EPC data logging
- Shelf-life monitoring, event alarm functions or other aberration flags
- Supports direct communication via SPI/IO port

Development Kit

A complete development kit including an R902DRM reader board and a SL900A smart data logger board is available. The kit comes with demo application and GUI software with source codes.

Typical Application – Single-Chip EPC Class 3 Temperature Logger



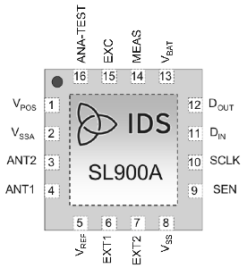
Quick Reference Data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{BAT}	Input Battery Supply Voltage	Note 1	1.2		3.6	V
I_{DD}	Supply Current	Shutdown current into V_{BAT} Quiescent current into V_{BAT} Operating, RFID Operating, logging		0.1 0.3 50 150	0.5	µA
F	Frequency Band		860		960	MHz
T_A	Operating Ambient Temperature		-40		110	°C
T_{S-R}	Temperature Sensor Range	Nominal range With reduced integral non-linearity	-20 -40		60 80	°C
T_{S-A}	Temperature Sensor Tolerance	-20°C to 60°C		+/-0.5		°C
T_{RTC-I}	Real-Time Clock, Interval	Programmable	1		32,768	Sec
	EEPROM	Erase/write cycles (T_A = 25°C) Data retention time (T_A = 110°C) Erase/write speed (T_A = 0° to 55°C)	100'000 20	 6.4		Cycles Years ms
	Protocols and Data Rates	EPC Gen 2 (Class 1) Class 3 - Forward Class 3 - Backward	640 8 / 32 / 48 2 / 8 / 32			Kbps

Note 1: The chip automatically detects whether a 1.5V, a 3V or no battery is connected and adapts accordingly for optimal performance.

Delivery Form

The SL900A is available in a 16-LD QFN (5x5 mm; RoHS) or as tested wafers (8"). Inlays, labels and modules are available through our partners.



Complementary Products

The EPC Gen 2 reader chips, R901G and R902DRM complements the SL900A in building complete RFID monitoring, tracking and data logging systems.

Similar Products

The SL13A is a single-chip smart data logger based on ISO 15693 (13.56 MHz).

About IDS Microchip AG

IDS Microchip AG is an RFID semiconductor company specialized in integrated circuits for RFID system solutions including readers, enhanced tags and labels with sensors for both HF and UHF systems. With its long history in RFID development, IDS offers one of the most complete semiconductor portfolios comprising both passive, semi-passive as well as active RFID systems.

Focusing on all silicon aspects of radio frequency identification (RFID) technology, IDS Microchip helps customers achieving cost-effective solutions. Its comprehensive portfolio comprises RFID and sensor-enabled integrated circuits and IP for highly integrated low-power RFID system solutions. Founded in 1996 and privately funded, IDS Microchip is headquartered in Wollerau, Switzerland; with a design centre in Ljubljana, Slovenia, an office in Toronto and distributors throughout the world.

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