



IDS

The RFID Semiconductor Company

R14AB

ISO 14443 RFID Reader IC

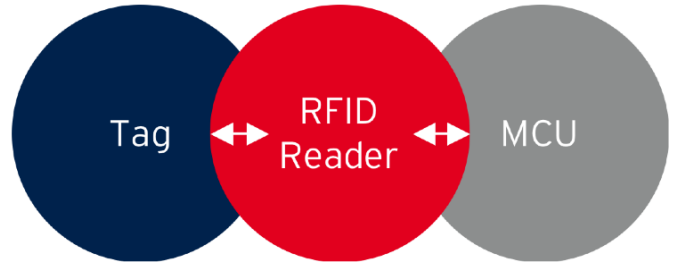
Product Flyer

ISO 14443 Reader Chip Optimized for Battery-Powered RFID Readers

The R14AB is an extremely low-power ISO 14443A/B RFID reader IC. It also supports NFCIP-1 106-kbps active communication and Mifare® Ultralight 4-bit ACK/NACK reply. Other standards and custom protocols are possible via the transparent mode.

The R14AB performs all framing and synchronisation functions and hence a simple low cost microcontroller is sufficient to build a complete ISO 14443-compliant reader.

The direct antenna driver system with automatic antenna tuning (patent pending) provides high utilisation of power and reduction of BOM, which are essential in battery-powered RFID readers with very small form factor.

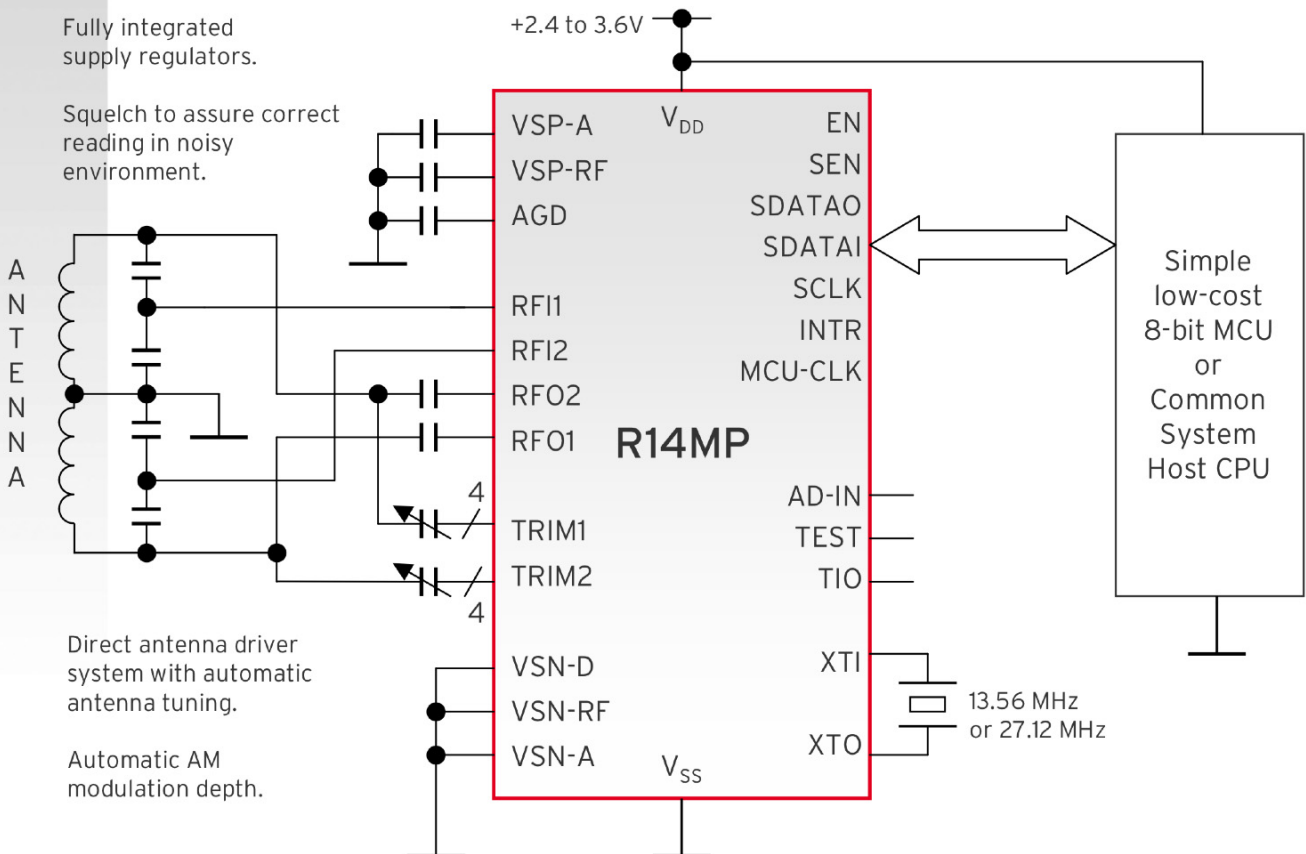


- Extremely low power consumption to support battery-powered RFID readers
- Supports proprietary protocols in direct mode
- Automatic antenna tuning

Development Kit

A complete development kit including a R14AB reader board is available. The kit comes with demo application and GUI software with source codes.

Typical Application - Battery-Powered RFID Reader System



Quick Reference Data

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{DD}	Input supply voltage range		2.4	3.3	3.6	V
I _{PD}	Supply current in power-down mode	All functions disabled		0.3	2	μA
I _{NFC-SU}	Supply current in initial NFC target mode			3.5	7	μA
I _{RD}	Supply current in ready mode	Oscillator running; MCU_CLK disabled		1.5	2	mA
I _{AL}	Supply current all active	Without antenna driver current		7	11	mA
I _{LP}	Supply current all active	Receiver in low-power mode		5	8	mA
T _A	Operating Ambient Temperature		-40		85	°C
I _{DD}	Current consumption	V _{DD} = 3.3V; P _{OUT} = 15 mW V _{DD} = 3.3V; P _{OUT} = 40 mW		16 25		mA
P _{OUT}	Output power	V _{DD} = 3.3V; with antenna tuning V _{DD} = 3.3V; without antenna tuning		400 800		mW
	Protocols and Data Rates	ISO 14443A/B* NFCIP-1 (active communication) ISO 15693 and proprietary		106 / 212 / 424 / 848 106 Via direct mode		kbps

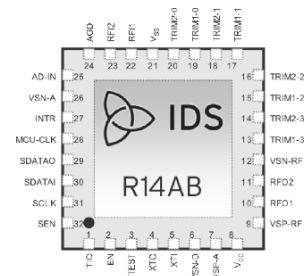
*) Supports Mifare® Ultralight 4-bit ACK/NACK reply

Delivery Form

The R14AB is available in a 32-LD QFN (5x5 mm; RoHS).

Similar Products

The R13MP is a multi-protocol reader chip covering a wide range of applications and is approved in more than 70 countries worldwide.



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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