



IDS

IDS-R13MP

13.56 MHz RFID Reader

Multi-Protocol Including ISO 14443, ISO 15693 and Cool-Log™

Protocols:

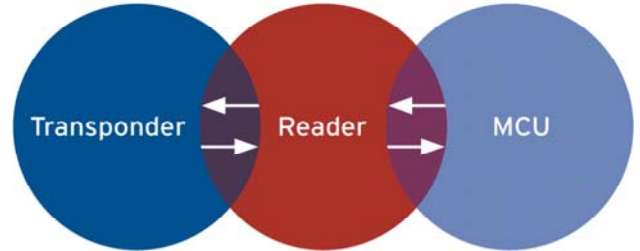
- ISO/IEC 15693
- ISO 14443A/B
- Cool-Log™
- Tag-it™, FeliCa

Key Features

- Supply voltage range: 2.7V to 5.5V
- Selectable protocols
- Antenna driver using OOK or ASK modulation
- Dual receiver input providing both AM and PM demodulation eliminating communication holes
- Reception automatic gain control
- On-chip voltage regulator providing up to 20mA for external MCU
- Reader-to-reader anti-collision
- Power-down, standby and active mode
- Temperature range: -40°C to 110°C

Package

- 32-pin QFN



Description

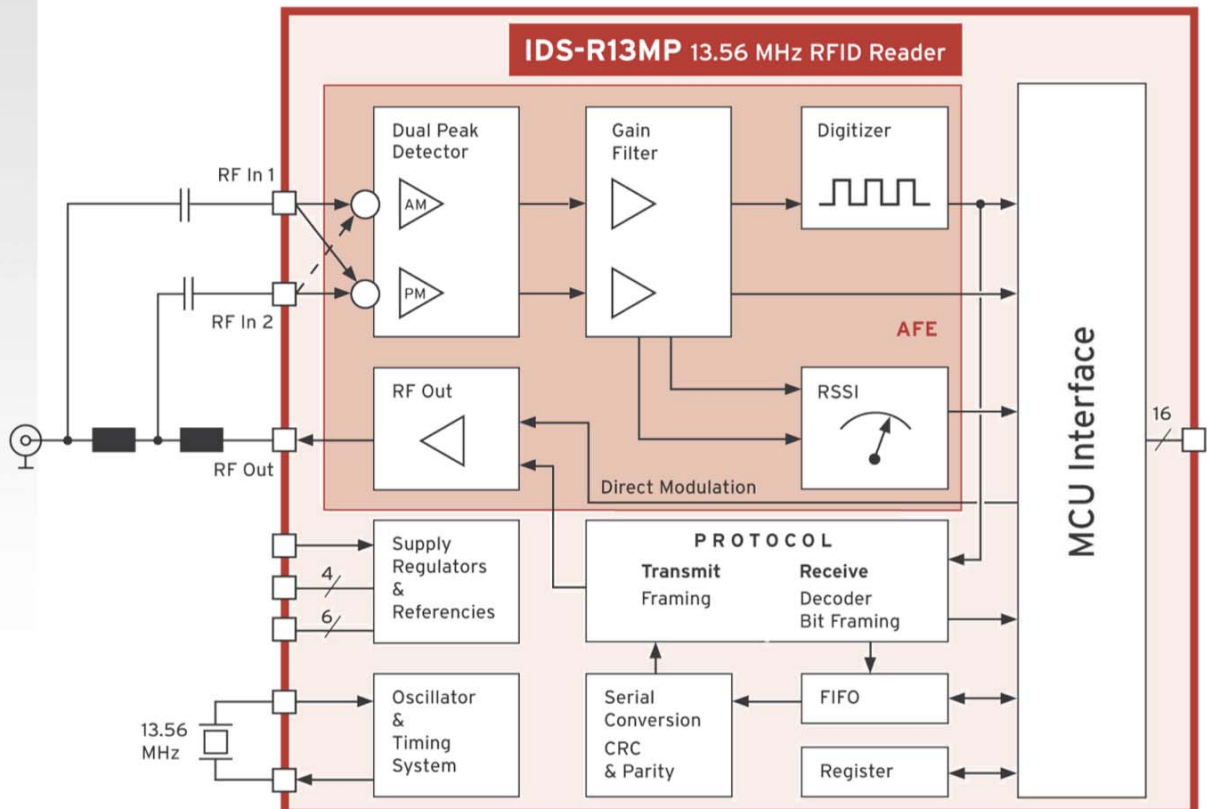
The IDS-R13MP is an integrated analogue front end and data framing system for 13.56MHz RFID systems. The built-in programming options make it suitable for a wide range of applications both in proximity and vicinity RFID systems.

The reader configuration is achieved by selecting the desired protocol in the control registers. The direct access to all control registers also allows fine-tuning of different reader parameters if required.

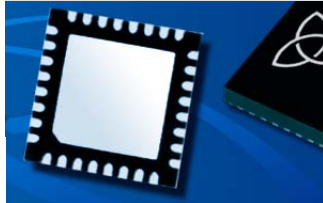
Applications

- 13.56 MHz RFID reader systems

Block Diagram



FEATURE	BENEFITS	REMARKS
AFE, bit coding/decoding, data framing, CRC checking, supply regulators, MCU support functions	Few external components and hence low BOM No need for dedicated CPU	It's all there!
Multi-protocol	One reader for all tags	Direct mode for proprietary protocols
Wide temperature range: -40°C to 110°C	Enables usage in harsh environments	
Dual AM/PM reception	Eliminating communication holes Secure and yet fast reading	RSSI detection for both AM and PM ensuring PM reception is selected only when needed
Reception AGC and AGL	High level of robustness Institute correct reception from multiple tags in various distances	The AGC settings are accessible through the register
User-accessible registers	Allows configuration of various options and fine-tuning of parameters	Programmable via MCU interface
MCU interface	Allows "off-line" operation of external low-cost 8-bit MCU (no real-time operation needed)	Parallel or serial (SPI)
Adaptive supply regulator system	Automatically adopts to the external supply and hence assures high PSRR and prevents interference	Patent pending Settings are accessible through the register
Low power consumption	Suitable for handheld devices	Works from a battery

HIGHLY INTEGRATED	TINY FORM FACTOR
✓ Integrated AFE with AM/PM and AGC/AGL reception	
✓ Integrated 100/200 mW power amplifier	
✓ Integrated low level bit coding and decoding	
✓ Integrated data framing	
✓ Integrated CRC checking	
✓ Integrated supply regulators	
✓ Integrated MCU support functions	
	32-pin QFN
	5 x 5 mm
	RoHS compliant • Pb-free

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