



NXP low-frequency HITAG-S ICs

3rd generation HITAG for low-cost RFID

Designed for high-volume livestock tracking and other large-scale RFID applications, these highly reliable, low-frequency HITAG ICs are available with 256- or 2048-bit memory, support long reading ranges, and comply with ISO 11784/85.

Features

- ▶ Third-generation HITAG technology
- ▶ Two memory options (256 or 2048 bit)
- ▶ ISO 11784/85 compliant
- ▶ More than 100,000 erase/write cycles
- ▶ 10 years non-volatile data retention
- ▶ Frequency range of 100 to 140 kHz
- ▶ CRC data integrity check
- ▶ Data rates (tag to reader): 2, 4, or 8 kB/s
- ▶ Data rate (reader to tag): 5.2 kB/s
- ▶ Memory Lock functionality
- ▶ 32-bit Unique Identification Number (UID)
- ▶ Encrypted authentication based on 48-bit secret key

Advantages

- ▶ Small die size
- ▶ Long read/write operating range
- ▶ Backward compatibility
- ▶ Design flexibility with standards compliance
 - ISO 11784/85
 - German Waste Management Standard (BDE)
 - German Pigeon Race Standard

NXP's HITAG-S ICs feature an innovative, ultra-low-power architecture specifically designed to provide the longer reading ranges required for completely automated livestock tracking.

The HITAG-S ICs fit into injectable glass tubes and have a long read/write operating range. The integrated standard ISO 11784/85 gate reader lets livestock be identified automatically, even in large numbers. Vaccination data can also be stored directly on the tag and can be authorized for use only by qualified veterinarians. All of the animal's data is available at all times – on and off line – so tracking systems can become transparent, verifiable, and affordable.

Beyond livestock tracking, the HITAG-S technology brings similar benefits to other RFID applications, including import/export control, food safety, laundry services, logistics for re-usable packages (such as beer kegs and gas cylinders), waste management (in accordance with the German BDE standard), marathon and pigeon race timing, and casino gaming.

Selectable operating modes make the HITAG-S architecture backward-compatible with HITAG 1 and HITAG 2 reader infrastructures.



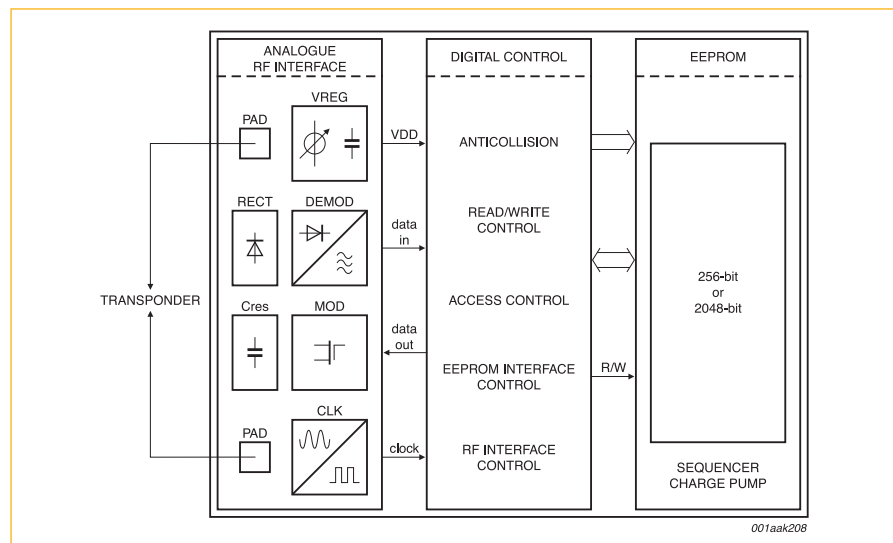
HITAG S ICs are fully compatible with the following reader ICs

	Ordering Info	Description
HTRC110	HTRC11001T/02EE (tube)	HITAG Reader IC
	HTRC11001T/03EE (reel)	

HITAG S ICs are fully compatible with the following readers

	Ordering Info	Description
HTRM301	HTRM301/AKDB	HITAG Proximity Reader Kit 125 kHz
HTRM902	HTRM902/AEDB	HITAG Long Range Reader Kit 134.2 kHz
HTEV110	HTEV110/AKDB	HITAG Reader Evaluation and Development Kit

Block diagram



Selection guide

Features	HITAG S256	HITAG S2048
Memory size	256 bit	2048 bit
Anti-collision	Yes	Yes
Encrypted authentication	Yes	Yes
Compatibility with HITAG 1	Yes	Yes
Compatibility with HITAG 2	Yes, with firmware upgrade	Yes, with firmware upgrade
ISO animal standard	Yes	Yes
German Waste Management Standard	Yes	Yes
Pigeon Race Standard	Yes	Yes

Ordering information

Type Name	Memory size	Delivery type description
HTSICH5601EW/V7	256 bit	Au-bumped die on sawn wafer
HTSICH4801EW/V7	2048 bit	
HTSICC5601EW/C7	256 bit	Au-megabumped die on sawn wafer
HTSICC4801EW/C7	2048 bit	
HTSMOH5601EV	256 bit	Plastic leadless module carrier package; 35 mm wide tape (PLLMC, SOT500-3)
HTSMOH4801EV	2048 bit	
HTSFCH5601EV/DH	256 bit	Metal flip-chip package; 2 leads; 35 mm wide tape (FCP2, SOT732-1)
HTSFCH4801EV/DH	2048 bit	
HTSH5601ETK	256 bit	Plastic, thermally enhanced, very thin, small outline package; no leads; 2 terminals; body 3 x 2 x 0.85 mm (HVSON2, SOT899-1)
HTSH4801ETK	2048 bit	

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