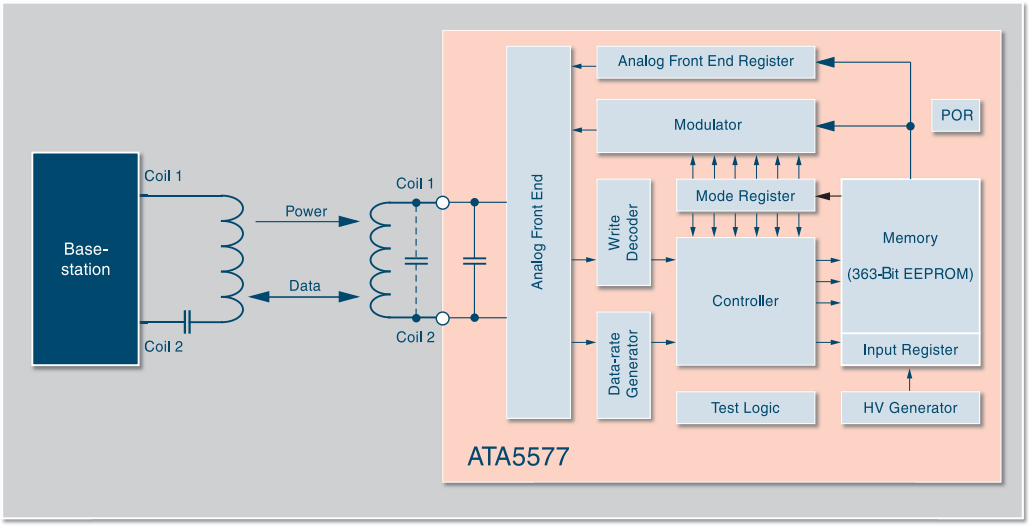
Multifunctional 363-Bit Read/Write RFID IDIC ATA5577

Atmel® offers a broad range of RFID devices for contactless read/write RF identification systems, delivered as die on wafer, die in tray, die on tape, micromodule, or complete transponder in a plastic package. Our low-frequency IDIC® products (100 to 150 kHz) with different security levels are flexible for all kinds of applications, easy to design-in and well-matched.

Features

- Contactless 100 kHz to 150 kHz Read/Write Identification IC (IDIC)
- Version M1 Standard Pads
- Version M2 Mega Pads
- Backwards Compatible to e5550/51 in Most Common Modes
- Backwards Compatible to T5557 and ATA5567
- On-Chip Capacitor 0 pF, 75 pF, 250 pF, or 330 pF, trimmed
- 224-Bit User Memory (7 Blocks of 32 bits Each), OTP Functionality
- 64-Bit Unique ID
- 32-Bit Analog Front End Register
- 32-Bit Configuration Register
- Binary Selectable Data Rate (RF/2 to RF/128)
- Modulation/Codings (FSK/PSK/ MAN/Bi-Phase/ NRZ)
- Password Mode
- Inverse Data Output
- 32-Bit Password (Protection Against Unauthorized Access)
- High Temperature Data Retention (24h at 250°C)
- Operating Range of –40°C to +85°C
- Fast Communication Protocols
- Self-Timing Downlink Protocols



Applications

- Access Control ISO Cards, Key Fobs, and Coins
- Asset Management
- Animal Identification
  (Supporting ISO 11784/11785 – FDX-B)
  – Livestock Tracking
  – Pigeon Racing Tags
- Waste Management
  ISO 11784/11785 (Non-Animal Mode)
- Laundry
- Manufacturing and Logistics
  – Material Handling
  – Recycling
  – Cylinder Tracking

Memory Mapping

The EEPROM is made up of two pages. Page 0 consists of 8 blocks, including configuration register and 32-bit password. Page 1 includes three blocks of 32 bits each and contains the 64-bit unique ID and the analog front end register. Each block can be protected against reprogramming via a lock bit.

	0	1.....32	
Page 1	L	Analog Front End Option Setup	Block 3
	1	Traceabilty Data	Block 2
	1	Traceabilty Data	Block 1
	L	Page 0 Configuration Data	Block 0
Page 0	L	User Data or Password	Block 7
	L	User Data	Block 6
	L	User Data	Block 5
	L	User Data	Block 4
	L	User Data	Block 3
	L	User Data	Block 2
	L	User Data	Block 1
	L	Configuration Data	Block 0

Password Mode

The memory of the ATA5577 can be protected against unauthorized access. The password mode provides write protection and – in combination with the AOR feature – read protection.

Support Tools

- Application Kits – ATAK2270, ATA2270-EK1
- Datasheet
- Application Notes
- Qual Packs

Ordering Information

Part Number *ATA5577M#*	On-Chip Cacity Value pF *ccc*	Package *-xxx*	Description
ATA5577M1 (Standard Pads)	000 [1] 075 [1] 250 330	DDB	6" Sawn Wafer on Foil with Ring, Thickness 150 µm (Approx. 6 mil)
		DBB	6" Sawn Wafer on Foil with Ring and NiAu Bumps 25 µm, Thickness 150 µm (Approx. 6 mil)
		DDW [1]	6" Wafer, Thickness 280 µm (approx. 11 mil)
		DDT [1]	Die in Waffle Pack, Thickness 280 µm (Approx. 11 mil)
		PAE [1]	NOA3 Micromodule (Lead-free)
ATA5577M2 (Mega Pads)	000 [1] 075 [1] 250 330	DBB	6" Sawn Wafer on Foil with Ring and Au Bumps 25 µm, Thickness 150 µm (approx. 6 mil)
		DDT [1]	Die in Waffle Pack, Thickness 150 µm (Approx. 6 mil)

[1] *On Request*

Headquarters

Atmel Corporation
2325 Orchard Parkway
San Jose, CA 95131
USA
Tel: (1) 408 441-0311
Fax: (1) 408 487-2600

International

Atmel Asia
Room 1219
Chinachem Golden Plaza
77 Mody Road, Tsimshatsui
East Kowloon
Hong Kong
Tel: (852) 2721-9778
Fax: (852) 2722-1369

Atmel Europe
Le Krebs
8, Rue Jean-Pierre Timbaud
BP 309
78054 St Quentin-en-Yvelines Cedex
France
Tel: (33) 1-30-60-70-00
Fax: (33) 1-30-60-71-11

Atmel Japan
9F, Tonetsu Shinkawa Bldg.
1-24-8 Shinkawa
Chuo-ku, Tokyo 104-0033
Japan
Tel: (81) 3-3523-3551
Fax: (81) 3-3523-7581

Product Contact

Product Line
rfid@atmel.com

Literature Requests
www.atmel.com/literature

Web Site
www.atmel.com

Rev.: 4612B-RFID-03/08/00M