Features Summary

Low-frequency full-duplex (FDX) RFID transponder with multi-purpose communication protocol. LF FDX RFID transponder operates at 125/134.2 kHz frequency band. It employs the same read/write command as mainstream FDX transponders.

Highlight Features

- Frequency range 100 – 150 kHz
- Integrated resonant capacitor 330 pF
- Air tuneable resonant capacitor 33 pF (±5%)
- Full-Duplex contactless read/write data transmission
- Long reading range
- Extremely low power consumption in read mode
- Mega pads (200 um x 400 um) for direct connection of coil
- On-chip rectifier and voltage limiter

Interface and Peripheral

- Fully compliant with ISO 11784/11785 FDX-B Animal tag ID data protocol/structure
- Compatible command with mainstream FDX product in the market
- Downlink; 100% ASK modulation
- Uplink; Bi-phase and Manchester modulation
- Selectable uplink data rate 8, 16, 32, 40, 64 RF clocks
- Reader Talk First feature (RTF)

Memory

- Factory programmed 32 bits UID
- 512 bits (16 x 32) EEPROM
- 320 bits (10 x 32) in user memory area
- 100,000 erase/write cycles
- 10 years non-volatile data retention
- Secure memory lock functionality

Operating Condition

- Carrier frequency fc is 134.2 kHz for animal tag, 125 kHz for access control
- Operating temperature: -40°C to 85°C

Packages

- Die-On-Wafer (DOW)
- Die-On-Wafer with Au-bump (DOWB)
- XDFN2 (1.15x1.4 mm)

Applications

- FDX-B ISO 11784/85 Animal Tag
- ICAR Compliant Tags
- Access Control
- Industrial
- Long Read-Range Transponders