

- USN / RFID System

## RFID APPLICATION TRAINER

New  
ED-3710

- F/W program practices for RFID Reader
- 13.56MHz and 900MHz in common use
- Data Read/Write to 900MHz Tag
- ED-3710 application programming (13.56MHz, 900MHz)
- Fixed Type RFID Reader



### > FEATURE

#### 900MHz RFID

- Multi Protocol RFID Reader module that meets the ISO standard and USA's EPCglobal standard
- Suitable for large-scale logistics and retail systems by the multiple tag recognition over 30 objects per second
- Supports ISO/IEC18000-6B/6C, EPC C1G1, C1Gen2 Multi-protocol
- Small, thin and low power design with the world-class MIC and TTA certified
- RF output controllable by the user(Max. +30dBm)
- Convenient host interface and firmware upgrade through serial communication
- 900MHz RFID R/W application program

#### 13.56MHz RFID

- Supports ISO/IEC 14443 Type A, Type B and ISO/IEC 15693 standards
- Supports I-CODE and Tag-It protocol
- Low power architecture
- Internal oscillator buffer to connect 13.56 MHz quartz
- Supports SPI-compatible serial interface
- Programmable ASK modulation rate from 8% to 100%
- Programmable transmission current up to 120mA
- Multi-protocol RFID Reader function

### > EXPERIMENTS

- **Part 1 : RFID Overview**
  - » RFID overview and characteristics
  - » RFID hardware and software technology
  - » RFID standardization and security
- **Part 2 : 13.56 RFID F/W Programming**
  - » Microprocessor's structure and function
  - » 8051 structure and function
  - » Usage of 8051 Development Tool
  - » LED control using uVision2
  - » LCD control using uVision2
  - » RFID Program
- **Part 3 : RFIDMaster Program**
  - » ED-3710 Equipment
  - » RFIDMaster
  - » RFIDMaster\_Step 01~06 Application
- **Part 4 : 900MHz RFID**
  - » 900MHz RFID application program
  - » 900MHz RFID operation

**> APPLICATION USAGE**

- Digital door-lock / building entrance
- E-cash reader
- Public transport terminals
- Handheld terminals
- On board Units
- Contactless PC terminals
- Portable or fixed type RFID Reader
- Security, logistics and factory automation

**> SPECIFICATIONS****MAIN COMPONENTS****• 900MHz RFID**

- » Frequency : [Korea] 908.5~914MHz, FHSS  
[USA] 902~928MHz, FHSS
- » Transmitting Output : 15~30dBm(adjustable by 1 dB step)
- » Consumption Power : <1.5A(Peak), <50mA(Standby), <2mA (Sleep)
- » Protocol : ISO18000-6B, 6C  
EPCglobal Class 0+, Class 1  
EPCglobal Class 1 Generation 2
- » Response Distance : Minimum 3 meter @ 30dBm (ISO/IEC18000-6C Tag, 2.5dBi, Antenna)
- » Interface Host : RS232 or TTL Serial 9,600~115,200bps
- » Antenna : MMCX Type
- » Certification : MIC, TTA

**• 13.56MHz RFID**

- » Multi-protocol RFID Reader : TRHoM31
- » Frequency : 13.56MHz
- » Protocol : ISO/IEC 14443 A/B, 15693 standards  
Tag-It Protocol

- » Modulation Type : ASK 8~100%
- » Operating Range : ISO 14443 A/B <100mm,  
ISO 15693 <150mm
- » Supply Voltage : 2.7V~3.6V
- » Package Size : 7.0 mm x 7.0 mm
- » Package LQFP(32pin)
- » Antenna : PCB Patten Antenna
- » Control Unit : AT89C51ED2, 11.0592MHz, Built-in ISP function
- » Communication : RS232 port. 9600Bps
- » LED : 2ea
- » LCD : 16 x 2 Line Text LCD(4Bit control)
- » Power : DC +5V, 3.3V

**ACCESSORIES**

- AC Power Cord : 1ea
- Serial Cable : 2ea
- Program CD : 1ea
- User's Manual : 1ea