Product Preview

uTRFABC32

HIGH PERFORMANCE ISO 14443 TYPE A & B,ISO 18092 PASSIVE MODE RF COUPLER

Revision 0.2

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1 INTRODUCTION

The uTRFABC32 is a RF coupler that fully comply to ISO 14443 Type A & B standard and ISO 18092 passive mode (or Sony Felica Type C) format. It can work with ISO 14443 type A, B and C compliance contactless smart cards.

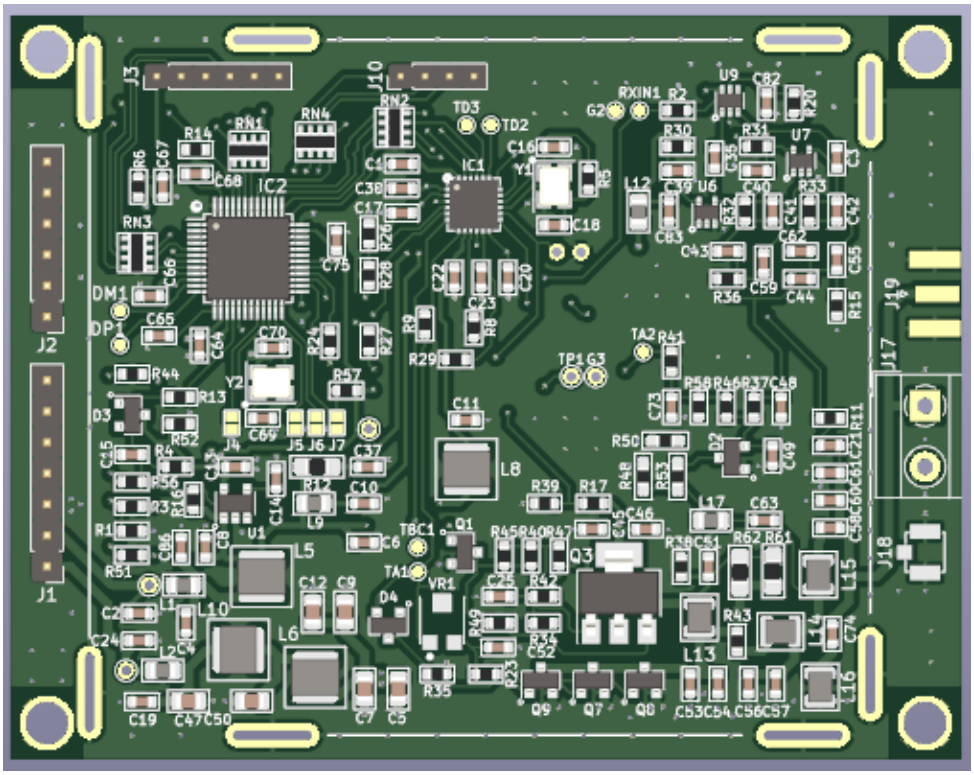
uTRFABC32 has built-in high-speed processor to handle the communication data between host and card. uTRFABC32 features antenna short circuit protection to prevent system damage due to unintentionally removal of antenna. It also supports multiple cards operation with built-in ISO 14443 anti-collision mechanism.

uTRFABC32 is functional compatible with uTRFABC15. The typical read/write distance is shown below:

Card Name*	**Protocol**	**Typical R/W distance# (cm)**
NXP Ultralight	Type A	10
NXP Mifare Standard	Type A	10
Microtech uT83RNA64	Type B	8
Sony Felica	Type C	10

** All product names are the property of their respective owners.*

 # Base on data rate 106Kbps (212kbps for Type C)



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2 FEATURES

2.1 HOST INTERFACE

CMOS-TTL level RS-232 with automatic baud rate detection or fixed baud rate.

Ordering P/N	Supported Baud Rate
uTRFABC32	Auto baud rate: 115.2kbps, 230.4kbps, 460.8kbps, 691.2kbps,748.8kbps, 921.6kbps and 1248kbps
uTRFABC32V1	Fixed baud rate: 921.6kbps

Three host protocol supported: APDU mode, pass-through mode and RAW data mode.

2.2 POWER SUPPLY

uTRFABC32 operates with a 12V and 5V DC power supply:

- +12 volts typical consumption 120mA (RF ON), 5mA typical (RF OFF)
- +5 volts typical consumption 80mA

2.3 CARD TYPES SUPPORTED

- ISO/IEC 14443-2 through 4, Type A Card
- ISO/IEC 14443-2 through 4, Type B Card
- ISO/IEC 18092, Type C Card (e.g. SONY Felica Card RC-S833)
- RF Carrier: 13.56MHz transmission
- RF data rate: 106kpbs, 212kbps, 424kbps, 848kbps (Type A & B), 212kbps, 424kbps (Type C)

2.4 EMC & EMI CONFORMITY

- EN 301 489-1/-3 (EN55022 in Class B)

2.5 APPLICATION AREA

- Automatic fare collection (AFC)
- Access control
- E-Purse facilities
- ID card

2.6 DIMENSIONS

- Main board: 78mm x 61mm x 10mm
- Remote antenna: uTRFANT02 (dimensions: 101mmx126mmx15mm)

2.7 OPERATING ENVIRONMENT

- Temperature range: 0 to 70 degree C
- Relative humidity range:40% to 90%

2.8 ROHS COMPLAINT

- EU directive 2002/95/EC

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3 GENERAL OVERVIEW

The uTRFABC32 is an ISO 14443 Type A, B & C RF coupler for contactless mode smart card applications. The block diagram of the uTRFABC32 is shown in Figure 1.

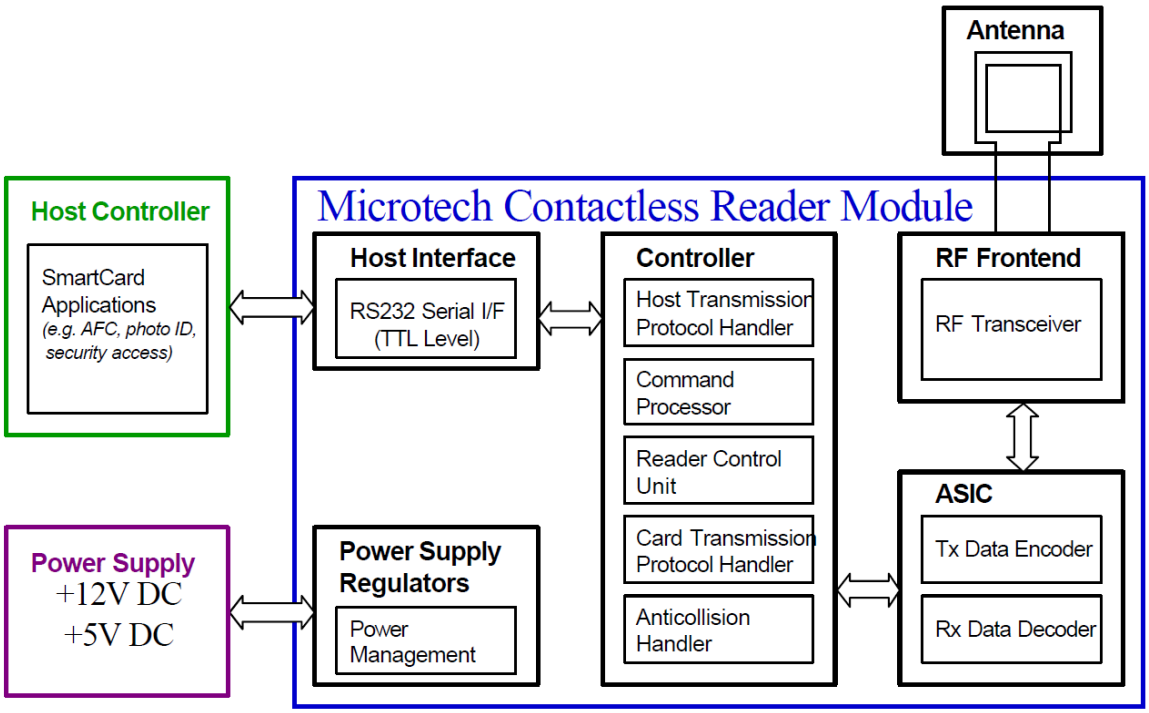

Figure 1: uTRFABC32 RF Coupler Block Diagram

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