



Product Preview

uT83RNA64

**CONTACTLESS SMARTCARD MCU WITH 64K
NVM**

Revision 1.0

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1 INTRODUCTION

The uT83RNA64 is a contactless smart card microcontroller (MCU) designed for contactless applications which requires more flexibility to interface with different built-up infrastructures. It complies with ISO14443 Type A and B standards. The RF front-end can support data rate up to 424Kbps. The selection of protocol is fully under user program control.

uT83RNA64 features a high speed low power 8052 CPU which is typically three times faster than traditional 8051.

It is targeting for generic applications such as payment, Identity Card, and transportation. It features 3DES encryption hardware to speed up the transaction speed.

1.1 FEATURES

1.1.1 General Features

- High speed 8052 compatible CPU core
- Total 64K-byte NVM:
 - User can configure into Data or Code Flash storage
 - Code are can be protected for overwrite
- Total 1.5K-byte user XRAM and 256-byte IRAM
- One 16-bit programmable timer with precaler and selectable clock source
- 20MHz Internal Oscillator RC1
- CPU clock divider (divide by 1,2,4 or 8) and selectable clock source
- ESD protection at least 4KV (HBM)
- Operation temperature range: -25C to +85C

1.1.2 Contactless Features

- Operating Frequency: 13.56MHz
- Support ISO14443 Type A and B
- Support 106, 212 and 424Kbps in both Type A and B mode

1.1.3 Security Features

- Low Voltage Reset and Low Frequency Reset
- Power on reset
- Tamper Monitor
- Protection Features Against Security Attacks
- True Random number generator
- High Speed single DES and Triple DES engine
- CRC 16 Engine per ISO 13239 and compatible with ISO14443-3 CRC requirement
- Optimized layout for security
- Unique identification code

1.1.4 Supported Standards

- ISO/IEC 14443
- EMV 2000

2 GENERAL OVERVIEW

The uT83RNA64 is a contactless interface smart card MCU for general purpose smart card applications and also best fit for payment and ID applications. The block diagram of the is shwon in Figure 1.

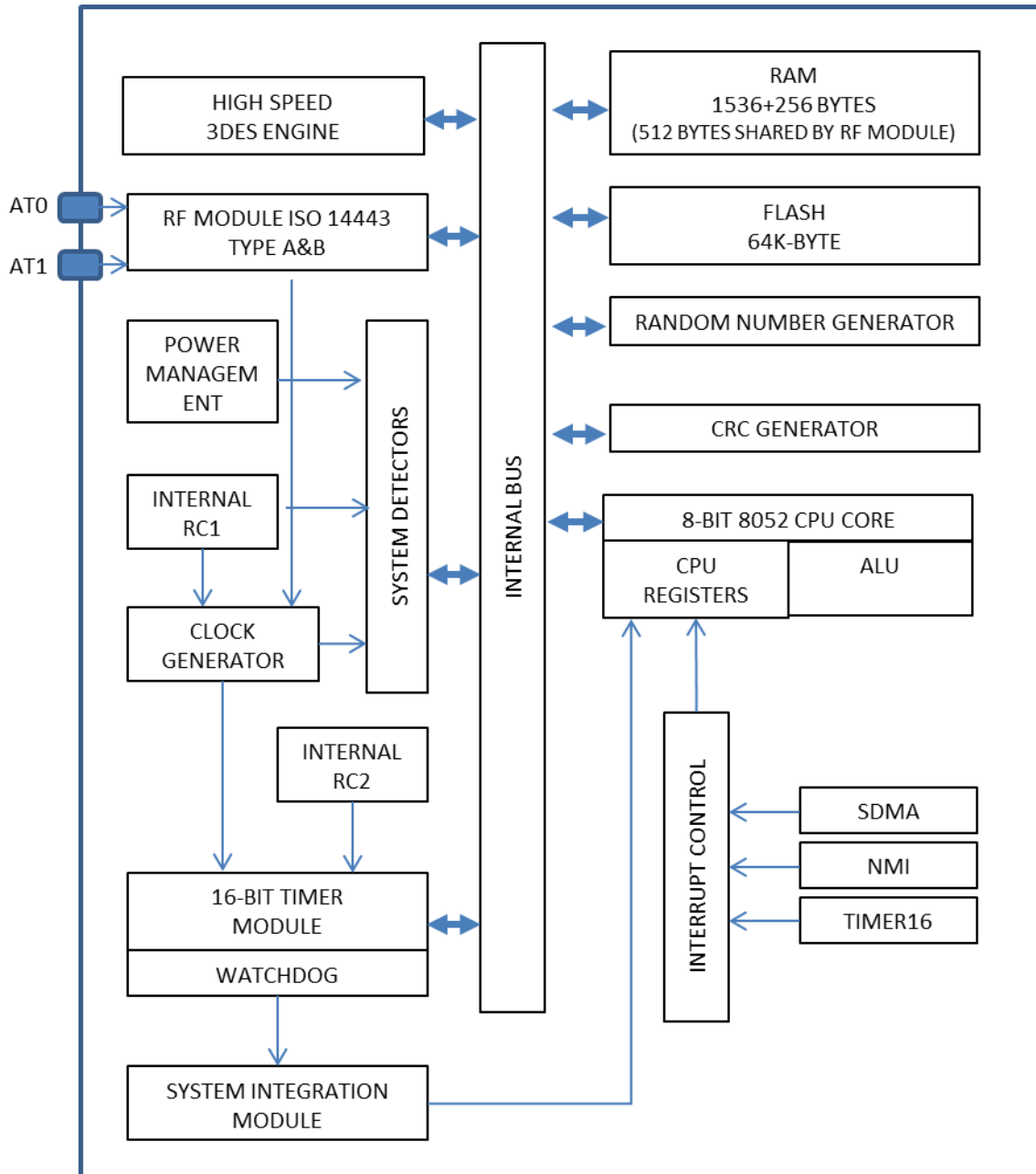


Figure 1: uT83RNA64 MCU Block Diagram