



**Dear ATMEL AT88CK201STK customer,**

Thank you for selecting the AT88CK201STK evaluation kit. We hope this kit will be a useful platform as you explore the full potential of the CryptoRF Reader chip, AT88RF1354, and the CryptoRF memory products.

The AT88CK201STK is designed to be used with Atmel's JTAGICE mkII debugger, AVR Studio developer's suite and the ATMEL Crypto Evaluation Studio (ACES). This seamless toolchain provides a convenient and powerful environment for generating, debugging and testing your embedded software. For more information on these and other CryptoRF development tools, visit [www.atmel.com/cryptokits](http://www.atmel.com/cryptokits).

#### **IMPORTANT MESSAGE!**

Atmel posts frequent updates to the AT88CK201STK software and documentation on our website. You may download the latest version for free from [www.atmel.com/cryptokits](http://www.atmel.com/cryptokits).

Should you experience problems with this kit, please ensure that you have downloaded and installed the latest software version before contacting an Atmel sales representative.

Thank you for your interest in ATMEL CryptoRF product.

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# AT88CK201STK Getting Started Guide

## Features

- Installing ACES (ATMEL CRYPTO EVALUATION STUDIO)
- Configuring the board for SPI mode
- Powering the board
- Reading a tag

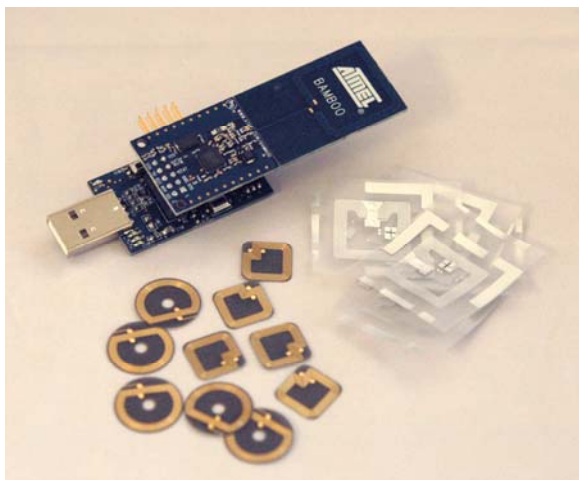
## 1 Introduction

AT88CK201STK is a CryptoRF reader Starter Kit, which can be used as a reference design and development system for the AT88RF1354 RF reader IC.

### Contents:

- AT88CK201BK modular CryptoRF reader board
- AT88Microbase for demos and development
- Common 10-PIN header for any Atmel STK and EVK
- CryptoRF development library
- JTAG, LED, and buzzer for debug and feedback
- CryptoRF tag assortment and USB cable

Figure 1-1 AT88CK201 Starter Kit



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**CryptoRF™**  
**AT88RF1354**  
**Reader Board**

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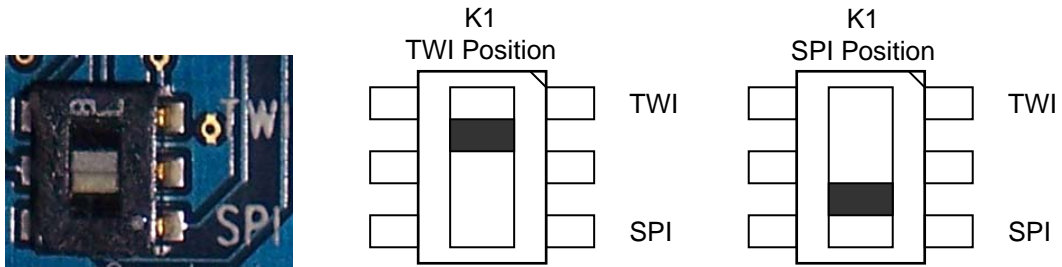


### 1. Installing ACES

Go to [www.atmel.com/cryptokits](http://www.atmel.com/cryptokits) to download and install the latest ACES.

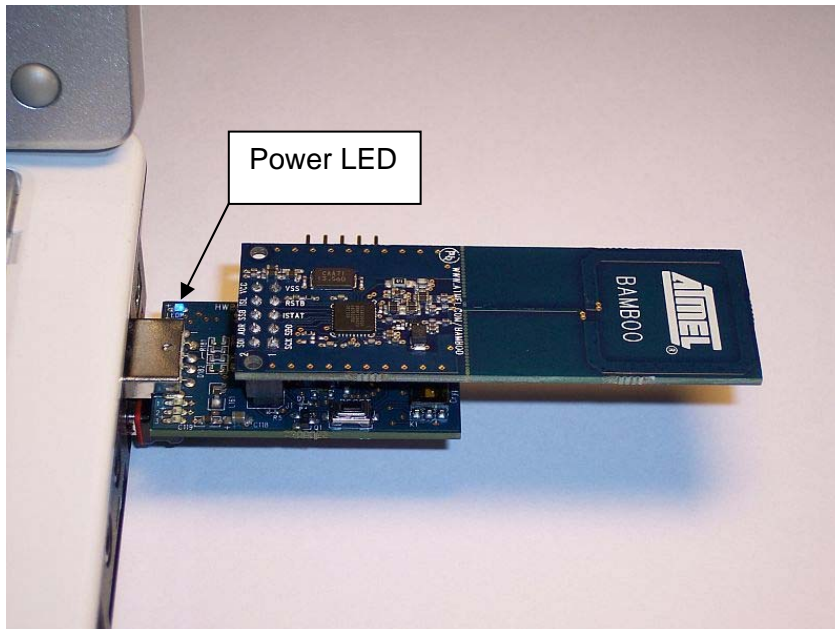
### 2. Configuring the board for SPI mode

Ensure K1 is in SPI mode.



### 3. Powering up the board

The AT88CK201STK is a USB powered device. The AT88Microbase can be directly inserted into the USB port or be used with the 6" USB cable provided.



Upon receiving power, the blue power LED “LEDP” will light.

## 4. Reading a tag

- Insert the AT88CK201STK into a USB port (Section 2)
- Launch ACES



- ACES will acknowledge the kit by displaying the kit name.

The screenshot shows the Atmel Crypto Evaluation Studio interface. The 'System Status' window displays the following information:

- Kit Name:** AT88CK201STK 1.0
- Device:** Not Detected!
- CryptoCompanion:** AT88SC018

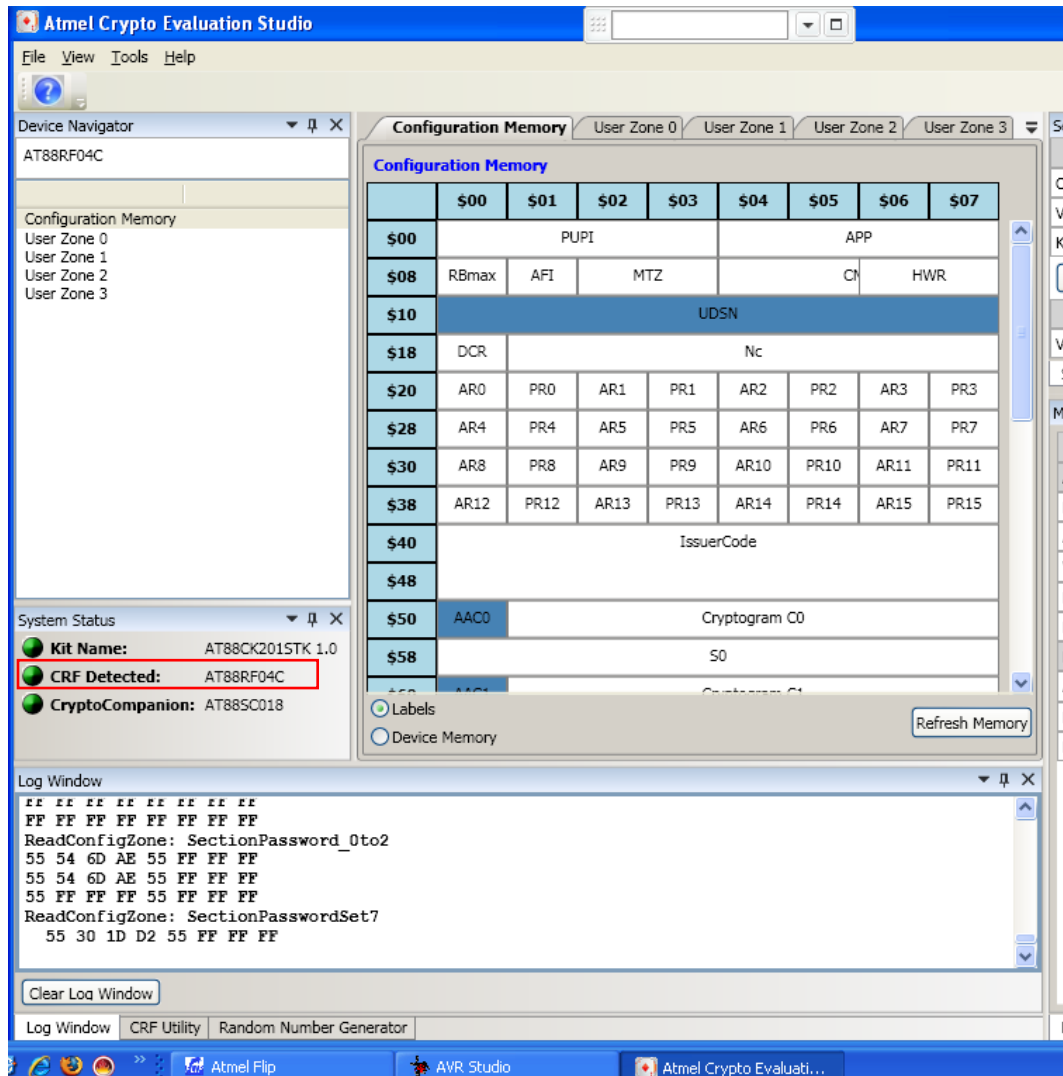
The 'Configuration Memory' window shows a table of memory addresses and their contents:

Address	\$00	\$01	\$02	\$03	\$04	\$05	\$06	\$07
\$00	PUPU				APP			
\$08	RBmax	AFI	MTZ		CMC			
\$10	UDSN							
\$18	DCR	Nc						
\$20	AR0	PR0	AR1	PR1	AR2	PR2	AR3	PR3
\$28	AR4	PR4	AR5	PR5	AR6	PR6	AR7	PR7
\$30	AR8	PR8	AR9	PR9	AR10	PR10	AR11	PR11
\$38	AR12	PR12	AR13	PR13	AR14	PR14	AR15	PR15
\$40	IssuerCode							
\$48								
\$50	AAC0				Cryptogram C0			
\$58	S0							

The 'Log Window' shows the following output:

```
GetBoardName: AT88CK201STK 1.0
GetBoardName: AT88CK201STK 1.0
SetCmcUsage: True
AT88SC018
SetCmcUsage: False
```

- Place a tag on the antenna portion of the AT88CK201STK. The “CRF detected” row will now indicate the device number.



- Congratulation, your AT88CK201STK is up and running
- See ACES online Help for additional information

## 5. References and further information

A complete reference design including schematics, Gerber files, BOM, Hardware User Guide, development and demonstration software is conveniently downloadable from the internet at [www.atmel.com/cryptokits](http://www.atmel.com/cryptokits).

## 6. EVALUATION BOARD/KIT IMPORTANT NOTICE

## 4 Quick Start Guide

This evaluation board/kit is intended for use for **FURTHER ENGINEERING, DEVELOPMENT, DEMONSTRATION, OR EVAL PURPOSE ONLY**. It is not a finished product and may not (yet) comply with some or any technical or legal requirements that are applicable to finished products, including, without limitations, directives regarding electromagnetic regarding electromagnetic compatibility, recycling (WEEE), FCC, CE or UL (except as may be otherwise noted on the board/kit). Atmel supplied this board/kit "AS IS," without any warranties, with all faults, at the buyer's and further users' sole risk. The user assumes all responsibility and liability for proper and safe handling of goods. Further, the user indemnifies Atmel from claims arising from the handling or use of goods. Due to open construction of the product, it is the user's responsibility to take any and all appropriate precautions with regard to electrostatic discharge and any other technical or legal concerns.

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