



## ATMEL - ATSAM3U-EK- SAM3U Evaluation Kit

### Product Overview:

The SAM3U Evaluation Kit (SAM3U-EK) allows the evaluation of the SAM3U series devices. It has enough features to demonstrate most of the product's capabilities to the users. The SAM3U-EK also features extension connectors to allow the users to add new interfaces in case they are not on-board.

The SAM3U-EK board is based on the integration of an ARM® Cortex®-M3 processor with on-board fast PSRAM (pseudo-static RAM), NAND-Flash and a set of popular peripherals. It is designed to provide a high performance processor evaluation solution with high flexibility for various kinds of applications.



### Kit Contents:

The Atmel® SAM3U-EK toolkit contains the following items:

- A SAM3U-EK board
- Power supply
- Universal input AC/DC power supply with US, Europe and UK plug adapters
- One 3V Lithium Battery type CR1225
- One USB cable
- One serial RS232 cable
- A Welcome Letter

### Key Features:

- SAM3U4E QFP chip with optional socket footprint
- 12 MHz crystal
- 32.768 KHz crystal
- Optional SMB connector, for external system clock input
- PSRAM
- NAND-Flash
- Backup Battery

- 2.8 inch TFT color LCD display with touch-panel and backlight
- UART port with level shifter IC
- USART port with level shifter IC
- Audio codec with input and output jacks: stereo headphone out, stereo line in, mono microphone in
- SD/MMC interface
- 3-D accelerometer sensor
- Temperature sensor
- Reset and Wake-Up buttons: NRST, NRSTB, FWUP
- User buttons: Left and Right
- High Speed USB device port
- JTAG port
- On-board power regulation with shutdown control (by the SAM3 chip)
- Two user LEDs
- Power LED
- BNC connectors for ADC input
- User potentiometer connected to the ADC input
- ZigBee® connector
- 3x32 bit PIO connection interfaces (PIOA, PIOB, PIOC)

## Ordering Information:

## Products:

Part Number	Manufacturer	Farnell P/N	Newark P/N
ATSAM3U-EK	Atmel	1716045	15R0277

## Associated Products:

Part Number	Manufacturer	Description	Farnell P/N	Newark P/N
AT91SAM-ICE	Atmel	ICE for AT91 ARM Cores	1095464	23M5083
ATJTAGICE2	Atmel	Development Kit, Debug Tool	9171100	23M5050
ATJTAGICE2-JMS2206	Atmel	Test Board Kit, Combo	1526599	73M8851
MCP9800A0T-M/OT	Microchip	Temperature Sensor	1439485	58M8993
ADS7843EG4	TI	Touch screen controller	1206871	35C1556
MIC29150-3.3BU	Micrel	Low-dropout regulator	NA	83F5900
MMA7341LR1	Freescale	Three Axis Low-g Accelerator sensor	NA	12N7286
MAX3232CD	TI	RS-232 Transceiver	1470457	26M0604
WM8731SEDS	Wolfson	Audio CODEC Driver	1776264	52R8742

## Similar Products:

Part Number	Manufacturer	Description	Support Device	Farnell P/N	Newark P/N
AT91SAM9261-EK	Atmel	Evaluation for AT91SAM926EJ	AT91SAM9261	1629538	02P6236
AT91SAM9263-EK	Atmel	Evaluation for AT91SAM9263	AT91SAM9263	1629539	02P6237
AT91SAM9RL-EK	Atmel	Evaluation for AT91SAM9RL-EK	AT91SAM9RL	1648589	11P0231
EKC-LM3S1968	TI	LM3S1968 MCU Eval Kit	Stellaris LM3S1968	1743665	45P3396
EKC-LM3S3748	TI	LM3S3748 MCU Eval Kit	Stellaris LM3S3748	1743667	45P3398

## Document List:

## Datasheet:

Part Number	Description	Size
MCP9800/1/2/3	<a href="#">2-Wire High-Accuracy Temperature Sensor</a>	332KB
MT45V512KW16PEGA-55WT	<a href="#">3.0V Core Async or Page PSRAM Memory</a>	908KB
AAT3194	<a href="#">High Efficiency 1.5X Fractional Charge Pump For White LED Applications</a>	316KB
ADS7843	<a href="#">Touch screen controller</a>	168KB
AT91SAM3U Series	<a href="#">AT91 ARM Cortex-M3 based Microcontrollers SAM3U Series Preliminary</a>	21.3MB
MIC29150	<a href="#">Series high-current low-dropout regulator</a>	136KB
MMA7341L	<a href="#">±3g, ±11g Three Axis Low-g</a>	172KB
MT29F2G08AABWP	<a href="#">NAND Flash Memory</a>	1.03MB
MAX3232CD	<a href="#">3-V TO 5.5-V Multi channel RS-232 Line Driver/receiver with +-15-kV ESD Protection</a>	272KB

## Application Notes:

File Name	Size
<a href="#">AT91 Assembler Code Startup Sequence for C Code Applications Software</a>	116KB
<a href="#">AT91 Assembler Code Startup Sequence for C Code Applications Software Based on the AT91SAM7S64 Evaluate</a>	140KB
<a href="#">Using the Two-wire interface (TWI) in Master Mode on AT91SAM Microcontrollers</a>	1.05MB
<a href="#">AT91SAM Internet Radio</a>	425KB
<a href="#">Connecting an Atmel ARM-based Serial Synchronous Controller to an I2S-compatible Serial Bus</a>	114KB
<a href="#">Interfacing a 4x4 Keyboard to an AT91 Microcontroller</a>	898KB
<a href="#">Migrating to an AT91SAM9G20-based System from an AT91SAM9260-based System</a>	190KB
<a href="#">Signal Integrity and AT91 Products(Basic Relationships IBIS Data and your PCB)</a>	676KB
<a href="#">Audio and Video CODEC Licensing</a>	184KB
<a href="#">Using the ECC Controller on AT91SAM9260 and AT91SAM7SE Microcontrollers</a>	774KB
<a href="#">Using the Serial Peripheral Interface with AT91SAMxx Devices</a>	149KB
<a href="#">Interrupt Generation Using the AT91 Timer and Counter</a>	112KB

## Hardware & Software:

File Name	Size
<a href="#">AT91SAM update 1.6 for MDK 3.7</a>	12.2MB
<a href="#">AT91SAM3U-EK Software Package for IAR 5.3, Keil and GNU</a>	38MB
<a href="#">Install AT91-ISP v1.13</a>	3.64MB
<a href="#">SAM3_BSDL</a>	8KB
<a href="#">SAM3_IBIS</a>	88KB
<a href="#">SAM3U-EK DevStart_v1.0.0</a>	3.94MB
<a href="#">SAM3U-EK Hardware files</a>	3.89MB
<a href="#">SAM-BA_CDC</a>	6MB