

# TI Sitara™ AM335x Arm<sup>(R)</sup> Cortex™-A8 Microprocessors



## Key Features and Benefits

- Feature-rich Arm Cortex-A8-based solution with performance up to 1 GHz to design robust, lower-power solutions
- Fully integrated solution including key peripherals such as CAN, 2-port Gigabit Ethernet switch, USB+PHY, acceleration and LPDDR1/DDR2/DDR3 reduces BOM costs
- Optional support for both EtherCAT® and PROFIBUS® industrial interfaces
- Programmable Real-time Unit (PRU) adapts to new application-specific standards with user configurable I/Os
- Flexible power management options to minimize active power while enabling standby power as low as 7 mW, prolonging battery life and enabling portable products
- System-on-a-chip with display subsystem including touch screen controller, 3D graphics accelerator and display controller
- Wireless connectivity support pre-integrated including Wi-Fi™, Bluetooth® and other technologies, including support for Wi-Fi Direct™
- Processor SDK eases design by providing out-of-box demos and benchmarks
- Broad software support for Linux, Android™ and Windows® Embedded Compact 7, in addition to a variety of third-party RTOS offerings, providing design flexibility

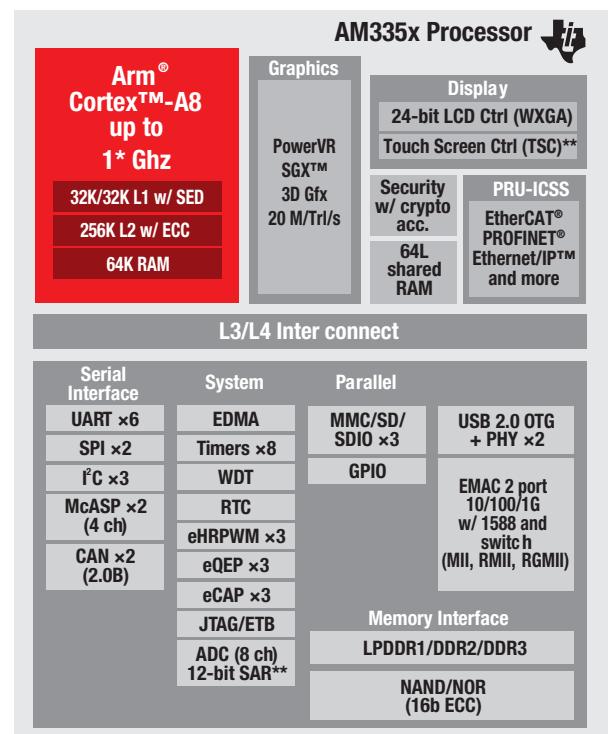
## Overview

Texas Instruments (TI) continues to optimize and expand its portfolio of industry-leading Arm microprocessors (MPUs) with seven new AM335x devices that deliver new levels of integration at very low price points. The AM335x Arm MPUs offer the highest DMIPs per dollar while delivering optional 3D graphics acceleration and key peripherals. The combination of graphics and connectivity support makes this solution ideal for portable navigation systems, handheld gaming devices, education and home/building automation solutions. The AM335x Arm MPU includes support for a robust set of software solutions. Software development kits are available for free download on [ti.com](http://ti.com) for Linux and TI RTOS. Leveraging these low-cost and flexible development tools, customers can easily migrate from a microcontroller (MCU)- or Arm9-based solution or cost optimize their current Arm Cortex-A8 design.

## Scalability

With a broad Arm MPU portfolio of more than 120 product options available today, customers can migrate within TI's Arm MPU product line from earlier software-compatible AM1x Arm9™-based devices to the Arm Cortex™-A8 line of devices. For software development, AM335x processors leverage the Processor SDK, a software development kit that allows for

easier code reuse and migration among Sitara Arm processors. Customers can also take advantage of design similarities to migrate to software-compatible DSP+Arm devices or to video processors. This easy scalability, enabled by software compatibility within TI's Arm MPU products and across other TI processor generations, can quickly expand market opportunities for new end products and reduce development time.



\* 720 MHz only available on 15x15 package. 13x13 is planned for 500 MHz.  
\*\* Use of TSC will limit available ADC channels  
SED: Single error detection/parity

▲ AM335x block diagram

## Get started today

Hardware, software and support to make development easy

- Evaluate the processor features on the included LCD touch screen within minutes of opening the EVM box
- Linux™ and TI RTOS support
- Processor SDK
- Responsive design support and active online TI E2E community: [e2e.ti.com](http://e2e.ti.com).

The AM335x Cortex-A8 Arm MPUs are sampling today, available at [www.ti.com/am335x](http://www.ti.com/am335x). Development is easy and can begin in minutes with TI's all-inclusive



▲ AM335x Starter Kit

development kit, which includes a 7" LCD touch screen and Wi-Fi™. Designers can begin development today with the \$995 USD **TMDXEVM3358** general-purpose Evaluation Module or the \$206 USD **TMDSSK3358**

Starter Kit. BeagleBone, a low-cost community development board is also available at a price point of U.S. \$89 to enable easy I/O expansion and provide fast development with a single USB cable. More information is available at [beagleboard.org/bone](http://beagleboard.org/bone).

## Community support

TI's online community at [e2e.ti.com](http://e2e.ti.com) supports AM335x Arm Cortex-A8 MPUs. Ask questions, share knowledge, explore ideas, and help solve problems with fellow engineers. Developers utilizing the BeagleBone can get support from a large [beagleboard.org](http://beagleboard.org) open-source community.

Pin-to-Pin Compatible	Arm Cortex-A8 (MHz)	Graphics	CAN & PRU-ICSS		Package	Availability	Software Compatible
	AM3359	800	3D graphics	CAN	Dual-Core PRU All Protocols	15x15 / 0.8mm	
AM3358	600/800/1000	3D graphics	CAN	Dual-Core PRU Standard Protocols	15x15 / 0.8mm 13x13 / 0.65mm*	In Production	
AM3357	300/600/800		CAN	Dual-Core PRU All Protocols	15x15 / 0.8mm	In Production	
AM3356	300/600/800		CAN	Dual-Core PRU Standard Protocols	15x15 / 0.8mm 13x13 / .65mm*	In Production	
AM3354	600/800/1000	3D graphics	CAN		15x15 / 0.8mm 13x13 / 0.65mm*	In Production	
AM3352	300/600/800/1000		CAN		15x15 / 0.8mm 13x13 / 0.65mm*	In Production	
AM3351	300/600				13x13 / 0.65mm*	In Production	

- ✓ Standard protocols for AM335x include Profibus, Profinet RT/IRT, Ethernet/IP, SERCOS III, and more
- ✓ All protocols for AM335x include Standard protocols plus EtherCAT and POWERLINK

Package	15x15mm (ZCZ)	*13x13mm (ZCE)
Arm speed	Up to 1000 MHz	Up to 600 MHz
USB 2.0	x2	x1
EMAC	2-port switch	-Single port

<sup>1</sup> Top protocols supported are:  
EtherCAT®/PROFIBUS®,  
Ethernet\_IP/POWERLINK/SERCOS-III/PROFINET

▲ AM335x Arm Cortex-A8 microprocessor peripheral options

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