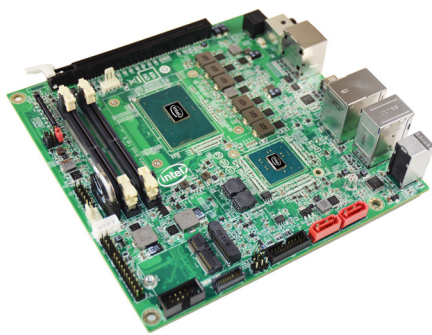


Intel® Xeon® Processor E3-1515M v5 and Intel® GL82CM236 Platform Controller Hub

Evaluation Kit Internet of Things



Product Overview

This evaluation kit provides superior CPU and graphics performance, and new advanced features to boost edge-to-cloud Internet of Things (IoT) designs, making it ideal for a wide range of IoT applications, including industrial control and automation equipment, retail devices, and military, aerospace, and government systems.

Manufactured on the latest 14 nm technology, the Intel® Xeon® Processor E3-1515M v5 offers numerous advancements over the prior generation.

The processor delivers quad-core processing and intelligent performance capabilities, including Intel® Turbo Boost Technology 2.0 and Intel® Hyper-Threading Technology. Additionally, it boosts performance

to integer/matrix-based calculations through Intel® Advanced Vector Extensions 2 (Intel® AVX2).

The introduction of Intel® Xeon® Processor E3-1515M v5 in a BGA package opens up workstation features, including ECC memory support, into new venues including mobile computing, purpose built computing, and thermal constrained form factor environments.

The E3 v5 family introduces new support for DDR4 1.2V up to 2133 MHz, with 64 GB maximum capacity and 8 GB density, improving memory performance over prior generation products utilizing DDR3L memory.

The E3 v5 series products introduce the Gen9 graphics engine, which offers a maximum of three independent audio streams and displays, Ultra HD 4K support, and workload consolidation for low BOM costs and energy output. Additionally, the processor supports the latest graphics APIs including DirectX® 12 (Windows® 10 only) and OpenGL® 4.4 for amazing 3-D rendering performance at low power.

By pairing the processor with the Intel® GL82CM236 Platform Controller Hub, the evaluation kit provides a total of 26 HSIO ports,¹ 20 PCIe® 3.0 ports,¹ and 10 USB 3.0 ports.¹

The kit supports advanced security and manageability features, including Intel® Platform Trust Technology (Intel® PTT) to safeguard credential storage and key management, Intel® Software Guard Extensions (Intel® SGX) to protect data while in use, Intel® Memory Protection Extensions (Intel® MPX) to protect memory from buffer-overload attacks, Intel® Boot Guard to securely boot machines, and Intel® vPro™ technology to support remote management.

Included in the Kit

The kit ships as a complete system in a chassis and includes the following components:

- Mobile Intel® Xeon® Processor E3-1515M v5, BGA package, 4 cores at 2.8 GHz, 8 MB Last Level Cache, and 45W/cTDP 35W Thermal Design Power (TDP), Qualification Sample QS, N-0 Stepping, Spec: QK9L, MM#: 946168
- Intel® GL82CM236 Platform Controller Hub, Qualification Sample, D-1 Stepping, Samples Spec: QJHW, MM#: 943506
- DDR4 SODIMM (8 GB total)
- Integrated video/graphics (HDMI, DisplayPort*)
- Accessories: AC power adapter with cord, Processor Heat Sink, HW Retention Kit, case, Intel® SSD

INTEL® XEON® PROCESSOR E3-1515M V5

Cores	4
Threads	8
Base frequency	2.8 GHz
Core Turbo (Max)	3.7 GHz
Intel® Smart Cache	8 MB
Thermal Design Power	45W cTDP 35W
Package	BGA
Intel® AES New Instructions (Intel® AES-NI)	Yes
Intel® AVX2	Yes
Intel® Turbo Boost Technology 2.0	Yes
Intel® Hyper-Threading Technology	Yes
Intel® vPro™ Technology	Yes
Error Correcting Code	Optional

INTEL® GL82CM236 PLATFORM CONTROLLER HUB

Package	BGA
SATA Revision 3.0 ports	Up to 8 (6 Gbps)
USB ports	14 total (up to 10 USB 3.0, 14 USB 2.0, 1 USB OTG)
PCI Express* x1 Gen 3 ports	Up to 20 (16 devices maximum)
I2C ports	2
UART ports	3
Direct Media Interface (DMI) Gen 3	x4
Integrated Sensor Hub	2 I2C, 2 UART
Intel® Gigabit Ethernet LAN ports	1 GbE
Memory channels/DIMM per channel	2/2
Audio	Intel® High Definition Audio, I2S (Bluetooth® technology), DMIC
LPC	24 MHz (No DMA)
Enhanced Serial Peripheral Interface (eSPI)	1CS#, quad mode
GSPI	2

Software Overview

The following independent operating system and BIOS vendors provide support for these platforms:

OS VENDOR	OPERATING SYSTEM (TARGETED FOR SUPPORT)	DISTRIBUTION	SUPPORT	BIOS
Microsoft*	Windows* 10 (64b)	Microsoft	Intel/Microsoft	American Megatrends Inc.* Insyde Software* Phoenix Technologies* Byosoft*
	Windows* 8.1 Au (64b)	Microsoft	Intel/Microsoft	
	Windows* Embedded Industry 8.1 (64b)	Microsoft	Intel/Microsoft	
	Windows* 7 Pro (32/64b)	Microsoft	Intel/Microsoft	
	Windows* POSReady 7 and WES7* (32/64b)	Microsoft	Intel/Microsoft	
Linux*	Fedora* Distribution (64b)	Open Source		
	Ubuntu*, SUSE*, Red Hat* Enterprise (64b)	Canonical Ltd.*, Attachmate Group, Red Hat, and Open Source		
	Yocto Project* Tool-Based Embedded Linux* (64b) Distribution	Yocto Project Community		
Google*	Chromium* (Chrome*) (64b)	The Chromium Projects*	Google	
RTOS	Wind River VxWorks 7* (64b)	Wind River Systems		

Not all features are supported. Contact your local Intel representative for more information.

Order Information

PRODUCT NAME	PRODUCT CODE
Intel® Xeon® Processor E3-1515M v5 and Intel® GL82CM236 Platform Controller Hub Evaluation Kit	EMBSKLCM236SBEVK

For more information about this evaluation kit, visit intel.com/iot



¹ Actual number of ports available may vary by processor number and system configuration. Please refer to the specifications corresponding to the processor number or consult your system vendor for more information.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

© 2016 Intel Corporation. All rights reserved. Intel, Xeon, Intel vPro, and the Intel logo are trademarks of Intel Corporation in the U.S. and/or other countries. The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Intel is under license.

* Other names and brands may be claimed as the property of others.