Intel® Xeon® Processor E3-1125C

Embedded Application Power Guideline Addendum

August 2012

Document Number: 327402-001US

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Revision History

Revision Number	Description	Date
001	Initial release	August 2012

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Background

This document provides power numbers on the Intel® Xeon® Processor E3-1125C while running real life applications. This document is complementary to the specifications published in the datasheet. The application power guidelines should be used for reference only. The power numbers provided in this document are not design points and should not be used as such.

The specifications contained in this document complement the document in the Reference Documents table.

Information types defined in the Nomenclature section of this document are consolidated into this update document and are no longer published in other documents. Additional information about Applications Power Guidelines is provided in the Related Documents table.

Related Documents

Document Title	Document Number/Location
Embedded Application Power Guideline	http://edc.intel.com/Link.aspx?id=4025

Reference Documents

Document Title	Document Number/Location
Intel® Xeon® and Intel® Core™ Processors For Communications Infrastructure – Datasheet - Volume 1	http://download.intel.com/embedded/processor/datasheet/327405.pdf
2nd Generation Intel® Core™ Processor Family Mobile Datasheet - Volume 2	https://www-ssl.intel.com/content/dam/doc/datasheet/2nd-gen-core-family-mobile-vol-2-datasheet.pdf

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Nomenclature

APG	Application Power Guidelines
TDP	Thermal Design Power
SKU	Stock Keeping Unit

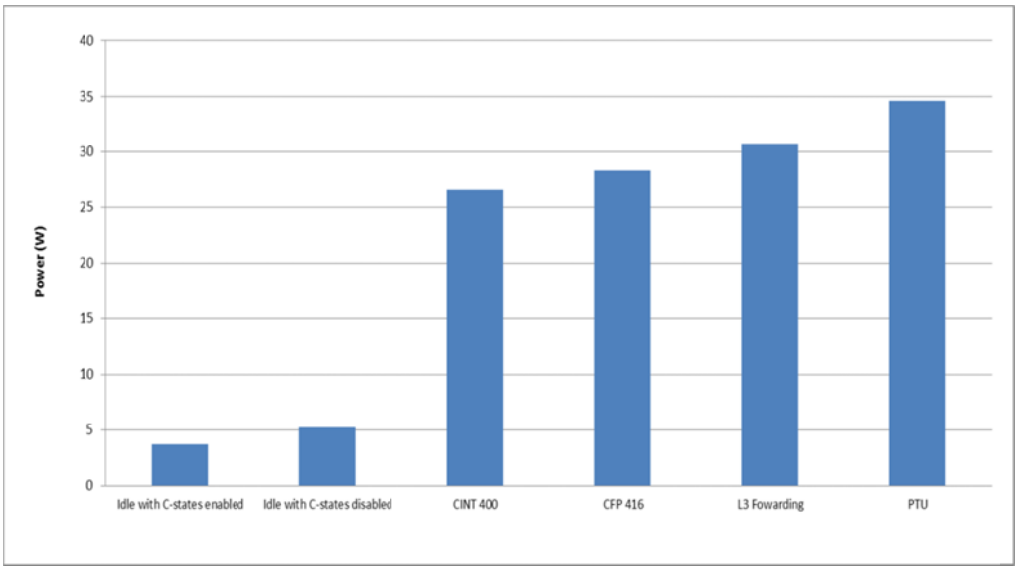
Application Power Guidelines

The Application Power Guidelines (APG) numbers listed in this document are intended to reflect the nominal use conditions. Several factors such as, temperature, platform configuration and other variables can influence the numbers. Specific information about the platform, benchmarks, temperatures, etc. are provided in this document to enable a repeatable power measurement. Since Application Power Guidelines are provided on limited applications and SKUs, it is expected that users understand these numbers and apply them in their own use cases.

Application Power Guidelines for the Intel® Xeon® Processor E3-1125C

The following figure indicates the Application Power Guidelines for various embedded applications for the Intel® Xeon® Processor E3-1125C with a 40W TDP specification.

Figure 1. Application Power Guidelines for the Intel® Xeon® Processor E3-1125C



Application / Benchmark	Processor Power (W)	Junction Temperature (°C)
Idle with C-states Enabled	3	30
Idle with C-states Disabled	5	32
CINT400	27	47
CFP 416	28	49
L3 Forwarding	31	52
PTU	35	55

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark* and MobileMark*, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

APG Configuration:

The results presented in this document are collected on a single sample. The data has not been post processed to account for part to part variation.

- Platform: The Intel® Xeon® Processor E3-1125C
- BIOS Rev: CCFGB037
- Memory: 2x 2 GB 2Rx8 PC3-10600-9-11-E0 DIMMs
- Operating System: Windows 7* x64, Linux Ubuntu* 11.04 x64, and Fedora15* x64
- Windows Benchmarks: PTU (Power Thermal Utility Tool Rev 1.1)
- Ubuntu Benchmarks: SPEC CPU2006 (CINT.400 Perlbench, CFP.416 Gamess)
- Fedora Benchmarks: Intel® Data Plane Development Kit (DPDK) 10G L3-Forwarding (version FD6)
- A reference heat sink with fan was used while running these benchmarks
- Application Power Guidelines testing was conducted by Intel Corporation
- For more information go to http://www.intel.com/performance/

Additional Information:

- In case of conflict the Datasheet supersedes this document
- Temperature values are mean temperatures measured through the duration of the test
- APG configuration is provided for repeatability of the test
- SPEC CPU2006 is one of the most widely used industry standard benchmark for evaluating IA CPU compute capabilities. The CINT benchmark used in this test is 400.Perlbench. The CFP benchmark used in this test is 416.gamess
- The L3 Forwarding application is a simple example of packet processing using the Intel® DPDK. The application performs L3 forwarding with 64 byte packet size
- Power Thermal Utility tool (PTU) or Thermal Analysis tool (TAT) are developed by Intel to generate TDP like workloads on a system
- The Idle Power reported above is while displaying the Windows 7* Desktop screen
- BIOS Configuration: Intel® Hyper Threading Technology and C-states were enabled, and IA Turbo was disabled for all of test except L3-Forwarding
- Bios Configuration for L3-Forwarding: ASPM support, Intel® Speed Step Technology, Intel® VT-d Objectives and C-States were all disabled. Intel® Hyper-Threading Technology and High Precision Timer were enabled. In addition, Max Pay Load was set at AUTO
- Peripherals: an Intel® 82801 PCI Bridge-244E Graphics Card was used for all test, and Intel® 82599ES 10 Gigabit Ethernet Controller was used for L3-Forwarding

Disclaimer

Values presented represent a typical or average processor SKU and do not guarantee a customer will achieve these exact values for each silicon sample. These values are not intended to replace TDP, nor to be used for reliability assessments. Individual test results may vary.

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