

Features:

- Intel® Single-Core Processor (Bay Trail)
 - Atom™ E3815 at 1.46 GHz
 - 512 KB L2 Cache
 - Intel® Gen7 Graphics and HD Audio
- Up to Two Simultaneous Active Displays
 - VGA up to 2560x1536
 - LVDS 18 or 24bpp
 - DisplayPort Version 1.1
- Up to 8GB DDR3L SDRAM
- Two Gigabit Ethernet Controllers
 - IEEE1588 and IEEE 802.1AS hardware-based time stamping
 - IEEE802.Qav Audio-Video Bridging (AVB)
 - Advanced Power Management (APM) support
 - Remote boot (PXE 2.1, iSCSI, and Intel Boot Agent)
- Two 16C550 compatible serial ports
 - Each with RS-232, RS-422, or RS-485
 - Standard or High-Speed 25 MHz clock
- Bus Expansion
 - Two MiniPCIe (one doubles as mSATA socket and one includes USB signals)
 - IO60 (SPI, I2C, PWM, and UART)
- Four USB Ports (one USB 3.0 and three USB 2.0)
- Bootable SATA, CFast, mSATA, and USB
- Wide range 10 to 50VDC Input Power
- Compatible with Linux, Windows®, and other x86 operating systems
- Rugged Thermal Solution Included
- Fanless -40° to +85°C Operation



Product Description

The SBC35-CC405-3815 is a high-performance, industrial, small form factor (SFF) computer capable of operating at extended temperatures without requiring a fan or heat-pipe. The Intel® E3815 Atom™ processor is integrated into the solution using a Type 6 COM Express module. A low-profile thermal solution creates a rugged platform base that protects the PCB assembly and provides convenient four-point mounting.

Benefitting from Intel®'s Silvermont microarchitecture, the Atom E3800 series provides up to twice the performance of previous Atom™ processors with a reduced thermal design power (TDP) range from 5W to 10W. The SBC35-CC405-3815 has a wealth of I/O and expansion options including USB3, USB2, dual Gigabit Ethernet, MiniPCIe, two RS-232/422/485 serial ports, I2C and SPI bus. The SBC35-CC405-3815 is the perfect choice for embedded applications that require a high-performance processor operating over an extended temperature range with expansion options to meet current and future project requirements.

COM Express Module – The SBC35-CC405 includes an integrated COM Express Type 6 module for the processing engine. The BIOS tightly couples the COM module with the carrier devices to provide a complete off-the-shelf solution while providing processor options in the same Intel® Atom™ family.

Memory – The SBC35-CC405-3815 supports 2G, 4G, or 8GB of factory installed DDR3L SRAM memory.



Video – The Intel® Atom™ SoC implements a derivative of the Generation 7 graphics engine which consists of rendering engine and bit stream encoder/decoder engine.

The graphics engine supports two independent and simultaneously active interfaces. The SBC35-CC405 provides native support for analog VGA, DisplayPort 1.1, and the eDisplayPort signals are converted to LVDS to provide direct connection to a variety of LCDs.

Ethernet – The SBC35-CC405 includes two Intel® I210 Gigabit Ethernet controllers with support for IEEE 1588 and 802.1AS protocol time-stamping, 802.1Qav Audio-Video Bridging, Error Correcting Code (ECC) packet buffers, and advanced power management including Energy Efficient Ethernet (EEE). Both interfaces support 10/100/1000 Mb/s multi-speed, full, and half-duplex operation.

Serial – The two 16C550 compatible serial channels include EXAR SP339E multiprotocol transceivers with internal termination and four configuration modes. Each transceiver is configurable in the BIOS and supports RS-232, RS-485 (2-wire half duplex), or RS-422 (4-wire full duplex).

Bus Expansion – The SBC35-CC405 provides multiple interfaces to add functionality to the basic design. Two MiniPCIe connectors are available for PCI Express expansion and include mounting holes for half or full size cards. One of the MiniPCIe connectors doubles as a bootable mSATA connector and the other includes USB lines.

The stackable IO60 expansion connector provides access to SPI, I2C, PWM, and UART signals for adding I/O modules. The simple interfaces allow integration with data acquisition, sensors, and other functionality for unique designs.

Boot Media and Storage – The SBC35-CC405 includes several bootable interfaces: SATA, USB, CFast, and mSATA. The CFast and mSATA solid state drives provide high-performance for rugged and high reliability applications.

Custom Configurations – Our engineering staff can utilize the building blocks contained in our standard products to address most requirements that arise. We will work directly with your staff to define an optimum solution in order to reach production in a short time frame. These customizations may be simply configuring products prior to shipment or specialized product designs.

WinSystems reserves the right to make changes to products and/or documentation without further notification.

Product names of other companies may be trademarks of their respective companies

¹Power consumption estimates are for the SBC35-CC405 series only and exclude any external devices

Technical Specification

Processor

Intel® Atom™ E3815 Quad-Core with 1.46 GHz core speed

Network Interface

Ethernet Two Intel® I210 GbE controllers

Video Interfaces

Up to Two Active Displays

VGA Up to 2560x1536 at 24bpp

LVDS 18 or 24bpp

DisplayPort 1.1

Storage (Bootable SATA Options)

One SATA 2.0 Channel

One CFast Socket

One mSATA Socket

Onboard I/O

Four USB One 3.0 and three 2.0

Two Serial Ports RS-232/422/485

Audio HD, Stereo, and DisplayPort

Watchdog timer Adjust from 1 second to 255 minutes

Real Time Clock With optional battery back-up

Expansion Bus Connectors

Two MiniPCIe (one supports mSATA)

One IO60 (SPI, I2C, PWM, and UART)

Power

+10 to 50VDC input: 8.75W Typical / 12 W Max

Software

Phoenix BIOS

Compatible with Linux, Windows, DOS, and x86 RTOS

Environmental

Operational Temperature: -40° to +85°C RoHS compliant

Mechanical

Dimensions 4 x 6.125 x 2.3 inches (102 x 156 x 58 mm)

Weight 1.4 lbs (635 gm)

Ordering Information

(See website for complete ordering information and accessories.)

SBC35-CC405-3815-2-2 Single-core SFF with 2GB RAM

SBC35-CC405-3815-4-2 Single-core SFF with 4GB RAM

SBC35-CC405-3815-8-2 Single-core SFF with 8GB RAM