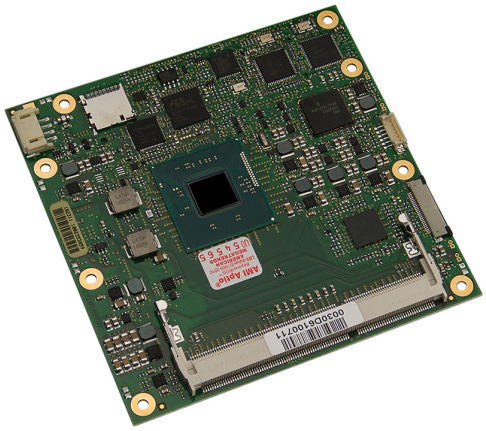
COM Express Type 2

AVNET EMBEDDED

MSC CXC-BT

Intel® Atom™ / Celeron® SOC



95 x 95	
8 / 14W	
-40 +85	

intel IoT Solutions Alliance

COM Express

Description

The MSC CXC-BT module is based on Intel's multi-core system-on-chip (SOC) Atom generation that integrates next generation Intel processor core, graphics, memory, and I/O interfaces into one solution. Based on 22nm processor technology this multi-core Atom processor provides outstanding computing and graphics power and is more power efficient compared to its predecessors.
The MSC CXC-BT brings dual independent display support, DirectX 11.1 and fast DDR3L memory on a compact, power saving and cost-efficient module.
Different SOCs with single-, dual- and quad-core processors are supported by this design. Besides an extensive set of interfaces and features, the MSC CXC-BT optionally offers hardware based security compliant to the requirements of TCG (Trusted Computing Group).
The Type 2 pin-out ensures compatibility to existing system and carrier board designs.

Highlights

- Intel Atom E3845 quad-core 1.91GHz, 10W
- Intel Atom E3827 dual-core 1.75GHz, 8W
- Intel Atom E3826 dual -core 1.46GHz, 7W
- Intel Atom E3825 dual -core 1.33GHz, 6W
- Intel Atom E3815 single-core 1.46GHz, 5W
- Intel Atom E3805 dual-core 1.33GHz, 3W (no graphics)
- Intel Celeron N2807 dual-core 1.58/2.16GHz, 4.3W
- Intel Celeron N2930 quad-core 1.83/2.16GHz, 7.5W
- Intel Celeron J1900 quad-core 2.00/2.42GHz, 10W
- Integrated Intel Gen. 7 HD graphics
- Up to 8GB DDR3L SDRAM, dual-channel
- One (two) SATA 3Gb/s mass storage interface
- One (zero) PATA/IDE mass storage interface
- MicroSD card socket
- LVDS 24bit, dual-channel
- VGA interface
- Two independent displays supported
- DirectX 11.1, OpenGL 3.2, OpenCL 1.1
- Eight USB 2.0 interfaces
- Trusted Platform Module (option)
- Extended temperature variants

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Technical Data - MSC CXC-BT

Technology	x86
Formfactor	COM Express Compact
CPU	Intel Atom E3845 quad-core 1.91GHz, 10W TDP Intel Atom E3827 dual-core 1.75GHz, 8W TDP Intel Atom E3826 dual -core 1.46GHz, 7W TDP Intel Atom E3825 dual -core 1.33GHz, 6W TDP Intel Atom E3815 single-core 1.46GHz, 5W TDP Intel Atom E3805 dual-core 1.33GHz, 3W TDP (no graphics) Intel Celeron N2807 dual-core 1.58/2.16GHz, 4.3W TDP Intel Celeron N2930 quad-core 1.83/2.16GHz, 7.5W TDP Intel Celeron J1900 quad-core 2.00/2.42GHz, 10W TDP
Chipset	SOC
RAM	up to 8GB DDR3L (1333), 2x 204 pin SO-DIMM
Flash	MicroSD card socket
Storage Interfaces	1x SATA 3Gb/s; 1x PATA; or 2x SATA, no PATA (option, on request)
USB	4x USB 2.0, 4x USB 2.0 (optional hub)
Bus Interfaces	2x PCI Express x1 Gen 2, Two additional x1 channels PCI Express Gen 2 (option, not for new design); PCI Bus 32 Bit, 33MHz standard interface (PCI 2.3); LPC bus (Low Pin Count bus)
Display Controller	Integrated Intel HD graphics Gen. 7
Display Memory	UMA
Display Interfaces	Analog (VGA) up to 2560 x 1600 @ 60Hz, LVDS 24 bit, dual channel, 1920 x 1200 @ 60Hz
Network Interface	10/100/1000Base-TX (Intel i210)
Audio Interface	High Definition Audio
Security Device	TPM 1.2 (option)
Miscellaneous	Watchdog Timer: Initiates system reset, programmable Fan Supply: 4-pin header for CPU fan, PWM speed controlled and PWM speed control for system fan supported RTC battery: external System Monitoring: voltage, temperature, CPU fan, system fan
Feature Highlights	Type 2 pin-out

Firmware	AMI Aptio UEFI
OS Support	Windows 7, 8, 8.1 (embedded) BSP for Linux on request EAPI (HW Programming Interface)
Power Requirement	Wide range input +5 … +17V, 5V Stby optional, 8 W (typ.) up to 14 W (typ.)
Environment	Ambient Temperature; 0° … 60°C (operating, C-Temp), -40° … +85°C (operating, I-Temp), -25° … 85°C (storage) Humidity: 5 … 95% (operating, non-condensing), 5 … 95% (storage, non-condensing)
Dimensions	95mm x 95mm
Certificates	UL / CE

Order Reference - MSC CXC-BT

Order Number	Description	Reference	Cat*
46815	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel E3815 single-core 1.46GHz, 512 kB L2, 5W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit; HD audio;1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 1x socket for DDR3L SO-DIMM; MicroSD card socket.	MSC CXC-BT-001 PCBFTX	OR
46817	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel E3825 dual-core 1.33GHz, 1MB L2, 6W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit; HD audio; 1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 1x socket for DDR3L SO-DIMM; MicroSD card socket.	MSC CXC-BT-002 PCBFTX	OR
46819	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel E3826 dual-core 1.46GHz, 1MB L2, 7W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit; HD audio; 1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 2x socket for DDR3L SO-DIMM; MicroSD card socket.	MSC CXC-BT-003 PCBFTX	OR
46821	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel E3827 dual-core 1.75GHz, 1MB L2, 8W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit;HD audio; 1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 2x socket for DDR3L SO-DIMM; MicroSD card socket.	MSC CXC-BT-004 PCBFTX	OR
46823	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel E3845 quad-core 1.91GHz, 2MB L2, 10W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit;HD audio; 1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 2x socket for DDR3L SO-DIMM; MicroSD card socket.	MSC CXC-BT-005 PCBFTX	OR
46825	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel Celeron N2930 quad-core 1.83/2.16GHz, 2MB L2, 7.5W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit; HD audio; 1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 2x socket for DDR3L SO-DIMM;	MSC CXC-BT-006 PCBFTX	OR
46827	COM Express Type 2 Compact module (95mm x 95mm); CPU: Intel Celeron J1900 quad-core 2.00/2.42GHz, 2MB L2, 10W TDP; Graphics: integrated Intel HD Gen 7; LVDS dual-channel and VGA; Ethernet: Intel i210 Gbit; HD audio; 1x SATA, 1x PATA, 8x USB2, 2x PCIe x1; no TPM; 2x socket for DDR3L SO-DIMM;	MSC CXC-BT-007 PCBFTX	OR

*COM products are divided in two categories, „PV“ (preferred variant) and „OR“ (on request).

Accessories

Order Number	Description	Reference
	Carrier Options	
32273	COM Express Type 2 Evaluation board with PCI and PCI Express interfaces	MSC CX-MB-EVA2 PCBFTX
32367	COM Express Industrial Platform with PCI and PCI Express x1	MSC CX-MB-IP1 PCBFTX
	Cooling Options	
1120173	Active Heatsink for C6C-BW, C6C-BT and CXC-BT, consisting of a single-piece aluminum profile with fins, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to SOC. PWM fan 80x80x15mm.	MSC C6C-BT-01 HSF-001
1119053	Passive Heatsink for C6C-BW, C6C-BT and CXC-BT, consisting of a single-piece aluminum profile with fins, standoffs without thread (2.7mm inner diameter), screws and thermopad for the thermal contact to SOC.	MSC C6C-BT-01 HSI-001
1122654	Heatspreader for C6C-BW, C6C-BT and CXC-BT. Single-piece aluminum profile, standoffs without thread (2.7mm inner diameter), screws and thermopad for the thermal contact to SOC.	MSC C6C-BT-01 HSP-001
1122653	Heatspreader for C6C-BW, C6C-BT and CXC-BT. Single-piece aluminum profile, threaded standoffs (M2.5), screws and thermopad for the thermal contact to SOC.	MSC C6C-BT-02 HSP-001
	Memory Options	
73461	2GB SoDimm, DDR3L-1866, 256Mx8 based	MOD SODIMM DDR3 2GB PC3-14900 CL13 1B
72004	4GB SoDimm, DDR3L-1866, 512Mx8 based	MOD SODIMM DDR3 4GB PC3-14900 CL13 1B
79963	8GB SoDimm, DDR3L-1866, 512Mx8 based	MOD SODIMM DDR3 8GB PC3-14900 CL13 2B

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