COMeT10-3900

COM Express® Type 10 Mini Module with Intel® Atom™ E3900 Processor, LPDDR4 RAM and Hardware TPM 2.0

Features

Performance for Industrial IoT

- Intel Atom E3900 Processor, formally Apollo Lake-I
- Up to 8GB LPDDR4 2400 MT/s System Memory
- Intel Low Power Gen9 Graphics Engine
- Full-HD and 3D Graphics acceleration

Security

- On-board Discrete TPM 2.0 Hardware Security

Rugged Design

- -40°C to +85°C Operating Temperature Range
- COM Express Type 10 Mini, Small Form Factor
- Wide Range Power Input (4.75V - 20V DC)

Expansion

- 4x PCIe lanes configurable as 4x1 (Default), 2x1 + 1x2, or 1x4
- 2x USB 3.1 Gen 1, 6x USB 2.0
- 1x i210 1Gb/s Ethernet RGMII with IEEE 1588 support
- HD Audio
- 2x SATA III (6 Gb/s)
- 2x UART
- 4x GPI, 4x GPO (SDIO option for MicroSD socket)

Storage

- On-board eMMC 5.x (8GB to 128GB)

Display

- 1x Dual Mode Display (DisplayPort, HDMI, DVI)
- 1x eDP (optional single channel LVDS)

Software Support

- Custom configurable UEFI based AMI BIOS
- System Management Libraries and Tools
- EAPI v1.1 support for System Info, WDT, I2C, Brightness, GPIO, and User Storage Area

Product Description

The COMeT10-3900 is an industrial COM Express® Type 10 Mini module with an Intel® Atom™ E3900 processor. This low power, industrial module was designed and manufactured in the USA. The small form factor module is designed as a processor mezzanine that can be plugged onto a carrier board that contains user specific I/O requirements.

COM Express modules allow users to retain the same carrier board design across scalable CPU series and over multiple generations of COM Express modules providing a long project lifetime. Updating a COM Express module to improve performance or replace an end of life processor drastically improves your time to market when revising existing projects. Users have the option to choose the default BIOS settings and layout, or request a custom branded configurable BIOS to support specific project requirements.

The COMeT10-3900 supports Linux, Windows® 10, and other x86-compatible real-time operating systems. Drivers are available from the WINSYSTEMS website.

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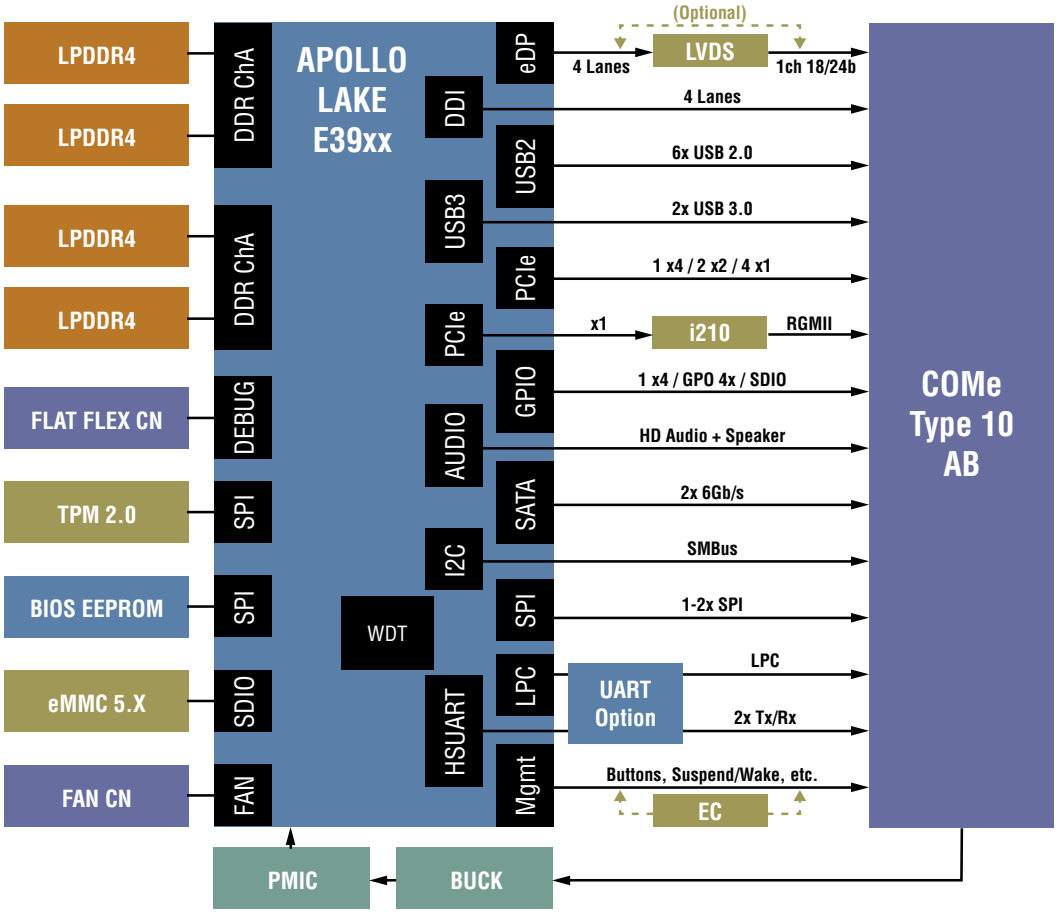
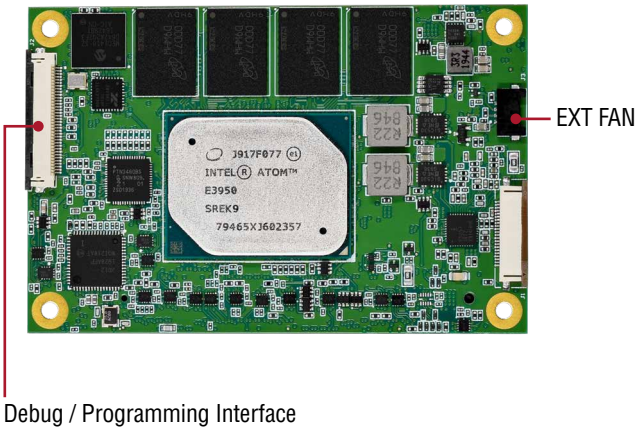
Block Diagram



Connectors

[TOP]



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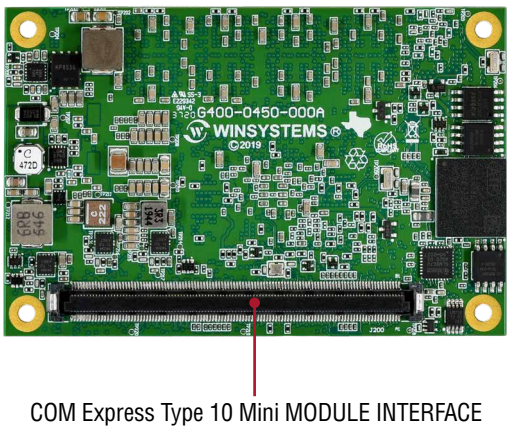

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Technical Specifications

PROCESSOR	**Intel Atom x5-E3930 Processor** Dual-Core, up to 1.8 GHz (base frequency 1.3 GHz)	**Intel Atom x5-E3940 Processor** Quad-Core, up to 1.8 GHz (base frequency 1.6 GHz)	**Intel Atom x7-E3950 Processor** Quad-Core, up to 2.0 GHz (base frequency 1.6 GHz)
MEMORY	• Up to 8GB LPDDR4 2400 MT/s (1200MHz) System Memory		
STORAGE	• On-board eMMC 5.x (64GB to 128GB)		
DISPLAY	• Two independent video outputs – 1x Dual Mode Display (DisplayPort, HDMI, DVI) – 1x eDP (optional LVDS)		
EXPANSION	• 4x PCIe lanes configurable as 4x1, 2x1 + 1x2, or 1x4 • 2x USB 3.1 Gen 1, 6x USB 2.0 • 1x i210 1Gb/s Ethernet RGMII with 1588 support • HD Audio • 2x SATA III (6 Gb/s) • 2x UART • 4x GPI, 4x GPO (SDIO option for MicroSD socket)		
POWER	• Wide Input: +4.75 to 20 VDC, Max Power Usage = 30W		
SOFTWARE	• Compatible with Linux, Windows10, and other x86 operating systems • Custom configurable UEFI based AMI BIOS • System Management Libraries and Tools • EAPI v1.1 support for System Info, WDT, I2C, Brightness, GPIO, and User Storage Area		
ENVIRONMENTAL	• Operational from -40°C to +85°C (-40 to +185°F)[1] • RoHS compliant *[1] Requires thermal solution via heatspreader/heatsink and/or airflow*		
MECHANICAL	• Dimensions - 3.31 in x 2.17 in (84mm x 55mm) • Weight - 8.0 oz (225 gm) with heat spreader • PC Board thickness 0.078 inches		

Order Information

PART NUMBER	**COMeT10-CCCC-REEEVUI**	
	-3950-	**CCCC** = CPU (3930, 3940, 3950)
	8	**R** = RAM SIZE (4, 8)
	128	**EEE** = EMMC SIZE (64, 128)
	E	**V** = Video Option (E = eDP, L = LVDS)
	L	**U** = UART Option (A = HSUART, L = Legacy UART)
THERMAL SOLUTION	COMeT10-450-SPRD-0	Spreader through-hole
	COMeT10-450-SPRD-1	Spreader threaded
	COMeT10-450-HTSK-0	Heat sink through-hole
	COMeT10-450-HTSK-1	Heat sink threaded
COMeT10 REFERENCE CARRIER	ITX-M-CC452-T10	
ACCESSORIES	TST-ADP-G0456	Debug and Programming interface board
	CBL-FFC05-36-152A	36-pin Flat Flex Ribbon Cable for Debug/Program Interface Board

Customization Options

WINSYSTEMS provides customization options for OEMs with minimum order quantities. Please contact an Application Engineer for details. additional cables, expansion cards, power supplies, and solid state drives to complete your embedded computing solution including data acquisition, communications, location, and other features via PCIe/104 and M.2 interfaces. Our Application Engineers are available to guide you through product selection and customized options.

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