

Embedded Form Factors – SBC

Attributes of a Stackable Single Board Computer

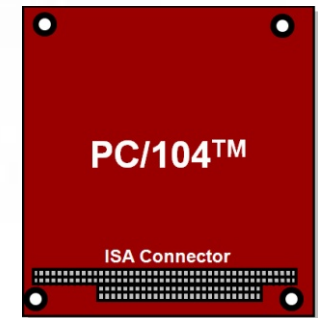
- Integrates Core CPU, Memory and I/O controllers
- Most interfaces terminated at a connector
- Typically offer some type of expansion
- Standards based



PC/104 Form Factor

PC/104 is intended for specialized embedded computing environments where applications depend on reliable data acquisition despite an often extreme environment

- Modular self-stacking system
- Stand alone or expansion use
- Numerous I/O functions available
- Multiple source, standards based
- Small 90 mm x 96 mm (3.6" x 3.8") footprint

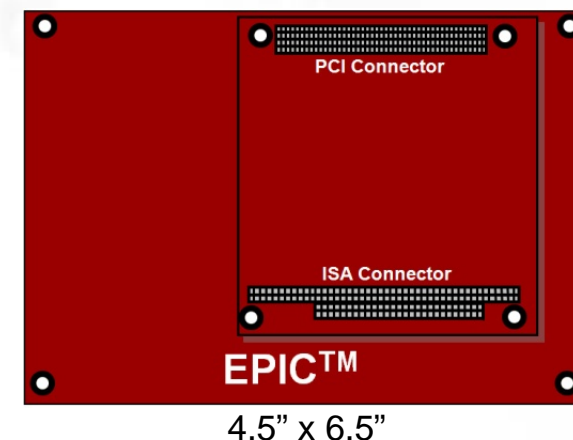


3.6" x 3.8"

EPIC Form Factor

The EPIC standard is sized midway between the EBX and PC/104 form factors.

With about 29 square inches of surface area, this bolt-down SBC format can provide much of the performance and I/O capacity of the larger EBX size, while fitting more conveniently in compact applications.



The EPIC standard was designed to accommodate "real world" I/O connectors, eliminating I/O transition cables and simplifies cabling for many applications.

- PC/104-Plus expansion site
- Modular self-stacking system
- Real-world I/O connectors
- Support for emerging technologies
- Multiple source, standards based
- Compact 115mm x 165mm (4.5" x 6.5") footprint

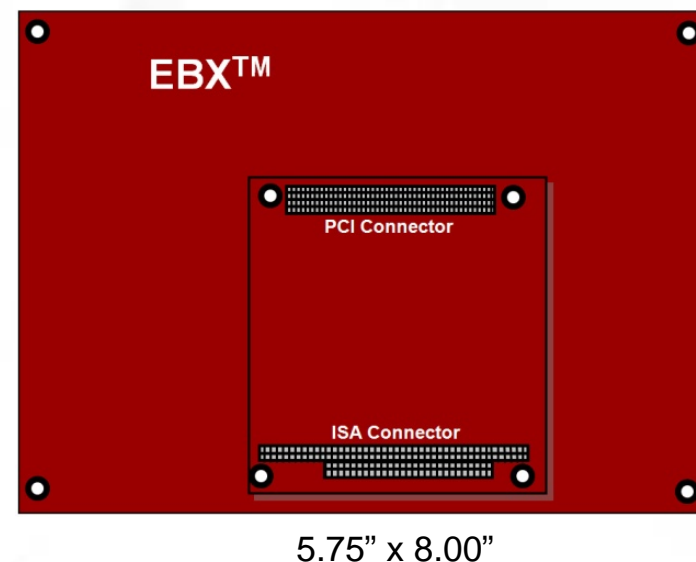
EBX Form Factor

The well-established EBX format (Embedded Board Expandable) is an excellent balance of size, economy, and functionality.

With 46 square inches of surface area, this bolt-down SBC format supports embedded designs with higher performance CPUs and generous on-board I/O functions.

The EBX form factor is the most effective cost and size solution for the majority of OEM applications.

- Higher performance processors
- Modular self-stacking system
- Higher on-board I/O capacity
- PC/104-Plus expansion site
- Multiple source, standards based
- Compact 146 mm x 203 mm (5.75" x 8") footprint



PC/104 Stacking Interconnects

PC/104

- The PC/104 computer bus utilizes 104 pins. Includes all the normal lines used in the ISA bus. Additional ground pins added to ensure bus integrity.

PC/104-Plus

- The PC/104-Plus form factor adds support for the PCI bus, to the ISA bus of the PC/104 standard.

PCI-104

- To increase the available board real estate, the PCI-104 form factor includes only the PCI connector.

SUMIT-ISM

- To increase the available board real estate, the PCI-104 form factor includes only the PCI connector.

PCI/104-Express

- To increase the available board real estate, the PCI-104 form factor includes only the PCI connector.

PCIe/104

- To increase the available board real estate, the PCI-104 form factor includes only the PCI connector.

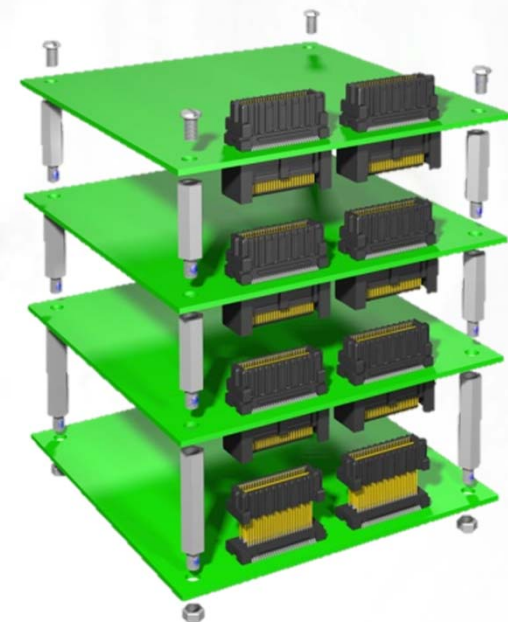



Same form-factors on EPIC and EBX Products

Stackable Unified Module Interconnect Technology

SUMIT is an approach to add high-speed - I/O centric expansion

- Form factor and processor independent
- Definition for the capabilities of two 52-pin high-speed connectors (A & B)
- Signals supported include PCIe, USB, LPC, SMBus and ExpressCard on one high-speed connector (A)
- Optional second connector (B) supports additional PCIe lanes plus additional power, ground and control signals
- Saves valuable PCB real estate by defining two small connectors
- Balances the maximum amount of I/O bandwidth with the minimum amount of board space

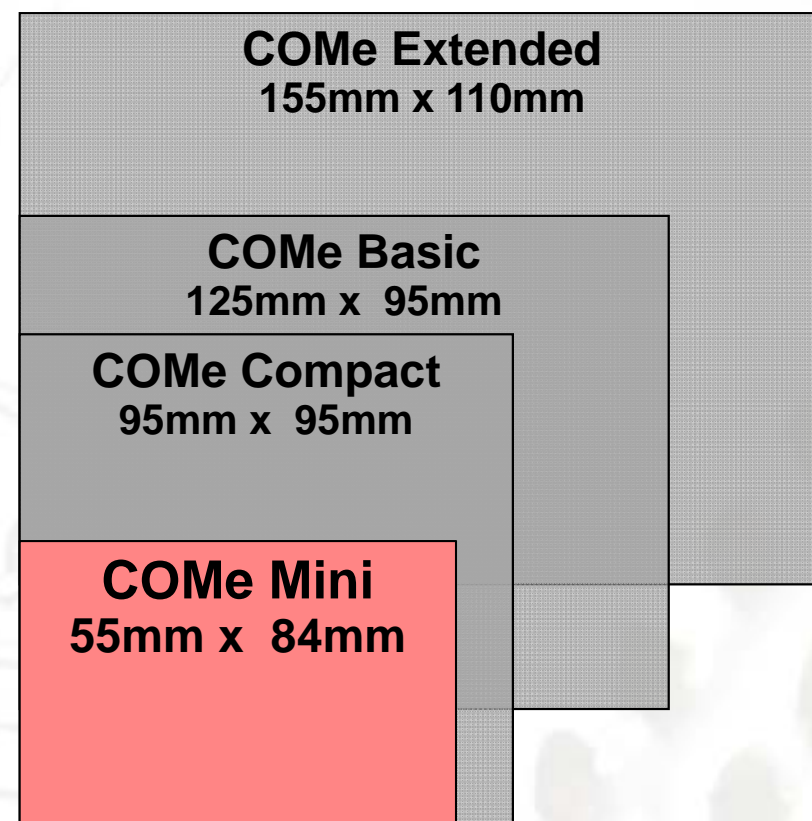
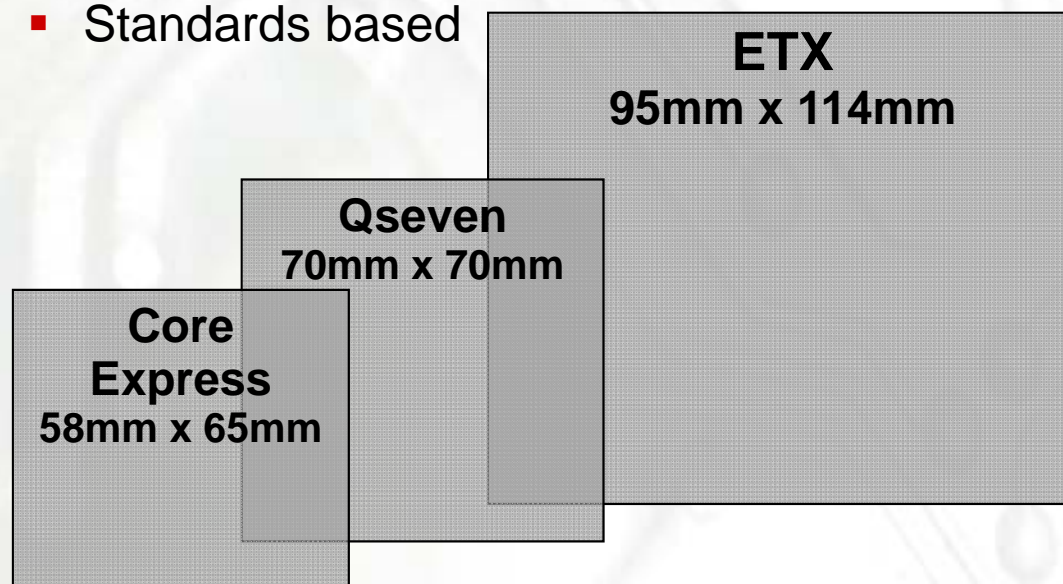
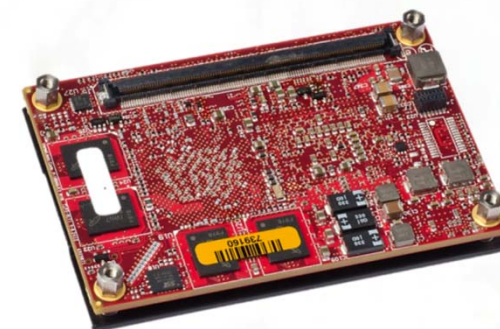


 sumit™

Embedded Form Factors - COM

Computer-On-Module

- Integrates Core CPU, Memory and I/O controllers
- All signals map to inter-board interface
- Standards based



Computer-On-Module Express

- Defined by PICMIG
- 4 Physical sizes
- 7 Defined inter-board interfaces

COM Express - Interconnects

Seven defined inter-board connector schemes

Type	Connectors	PCIe Lanes	SATA Ports	LAN Ports	USB 2.0	USB 3.0	Display Interfaces
1	1	Up to 6	4	1	8		VGA, LVDS
2	2	Up to 22	4	1	8		VGA, LVDS, PEG/SDVO
3	2	Up to 22	4	3	8		VGA, LVDS, PEG/SDVO
4	2	Up to 32	4	1	8		VGA, LVDS, PEG/SDVO
5	2	Up to 32	4	3	8		VGA, LVDS, PEG/SDVO
6	2	Up to 24	4	1	8	4	VGA, LVDS, PEG, 3xDDI
10	1	Up to 4	2	1	8		LVDS, SDVO, 1xDDI