

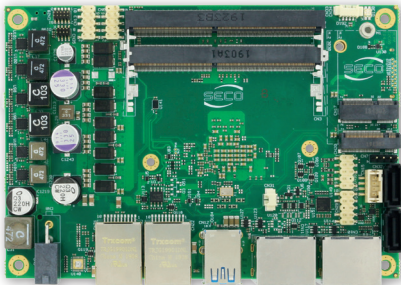
Single Board Computer



SBC-C90

3.5" SBC with AMD Ryzen™ Embedded R1000 / V1000 family of SOCs

Full connectivity on powerful AMD Ryzen™ platform



HIGHLIGHTS



CPU
AMD Ryzen™ Embedded V1000 and R1000 processors



CONNECTIVITY
2x GbE; M.2 WWAN and WLAN slots; 2x USB3.0; 2x USB 2.0; 8x GPIOs



GRAPHICS
AMD Radeon™ Vega GPU with up to 11 Compute Units



MEMORY
Two DDR4 SO-DIMM Slots supporting DDR4-3200/2400 ECC and non-ECC Memory

Available in Industrial Temperature Range



MAIN FIELDS OF APPLICATION



Digital Signage - Infotainment



Edge Computing



Gaming



HMI



Industrial Automation and Control

FEATURES

Processor	<p>AMD Ryzen™ Embedded V1000 family SoCs:</p> <ul style="list-style-type: none"> AMD Ryzen™ Embedded V1807B with AMD Radeon™ Vega 11 Graphics, Quad Core Dual Thread @ 3.35GHz (3.8 Boost), TDP 35-54W AMD Ryzen™ Embedded V1756B with AMD Radeon™ Vega 8 Graphics, Quad Core Dual Thread @ 3.25GHz (3.6 Boost), TDP 35-54W AMD Ryzen™ Embedded V1605B with GPU AMD Radeon™ Vega 8, Quad Core Dual Thread @ 2.0GHz (3.6 Boost), TDP 12-25W AMD Ryzen™ Embedded V1202B with GPU AMD Radeon™ Vega 3, Dual Core Dual Thread @ 2.3GHz (3.2 Boost), TDP 12-25W <p>AMD Ryzen™ Embedded R1000 family SoCs:</p> <ul style="list-style-type: none"> AMD Ryzen™ Embedded R1606G with GPU AMD Radeon™ Vega 3, Dual Core Dual Thread @ 2.6GHz (3.5 Boost), TDP 12-25W AMD Ryzen™ Embedded R1505G with GPU AMD Radeon™ Vega 3, Dual Core Dual Thread @ 3.25GHz (3.6 Boost), TDP 12-25W 	<p>Mass Storage</p> <p>M.2 NVMe slot (Socket 2 Key M Type 2280), PCI-e x4 interface microSD Card slot (combo with miniSIM slot) 2x SATA 7p M connectors w/ 1x power connector</p>
Max Cores	4	<p>Networking</p> <p>Up to 2 x Gigabit Ethernet ports M.2 WWAN slot (Socket 2 Key B Type 2242/3042) for Modems M.2 Connectivity Slot (Socket 1 Key E Type 2230)</p>
Memory	2x DDR4 ECC and non-ECC SODIMM Slots Support DDR4-2400 memories (DDR4-3200 with V1807B and V1756B), up to 32GB total	<p>USB</p> <p>2 x USB 3.0 Host ports on USB 3.0 Type-A sockets 2 x USB 2.0 Host ports on internal pin header 1 x USB 3.0 (V1000 SoCs) / USB 2.0 (R1000 SoCs) Host port on WWAN M.2 slot 1 x USB 2.0 Host port on M.2 Connectivity Slot</p>
Graphics	GPU AMD Radeon™ VEGA with up to 11 Compute Units DirectX® 12 supported H.265 (10-bit) decode and 8-bit video encode VP9 decode 4 independent displays supported (3 with R1000 SoCs)	<p>Audio</p> <p>HD Audio codec Line Out + Microphone + S/PDIF Out interfaces on internal pin header</p>
Video Interfaces	4x DP++ connectors (only 3 working with R1000 SoCs)	<p>PCI-e</p> <p>1 x PCI-e x4 port on M.2 NVMe Slot 1 x PCI-e x1 port on M.2 WWAN Slot 1 x PCI-e x1 port on M.2 Connectivity Slot 2x PCI-e x1 on Gigabit Ethernet Controllers</p>
Video Resolution	DP++: Up to 4096 x 2160	<p>Serial Ports</p> <p>2 x RS-232/RS-422/RS-485 UARTS, on internal Pin Header</p>
		<p>Other Interfaces</p> <p>miniSIM slot for M.2 modems (combo with microSD slot) 8 x GPIOs connector FAN connector Switch / LED Front Header connector 2x I2C on internal pin header Antitamper connector Optional TPM 1.2 or 2.0 onboard</p>
		<p>Power Supply</p> <p>+12V_{DC} ÷ +24 V_{DC} RTC battery</p>
		<p>Operating System</p> <p>Microsoft® Windows 10 (64-bit) Linux Ubuntu</p>





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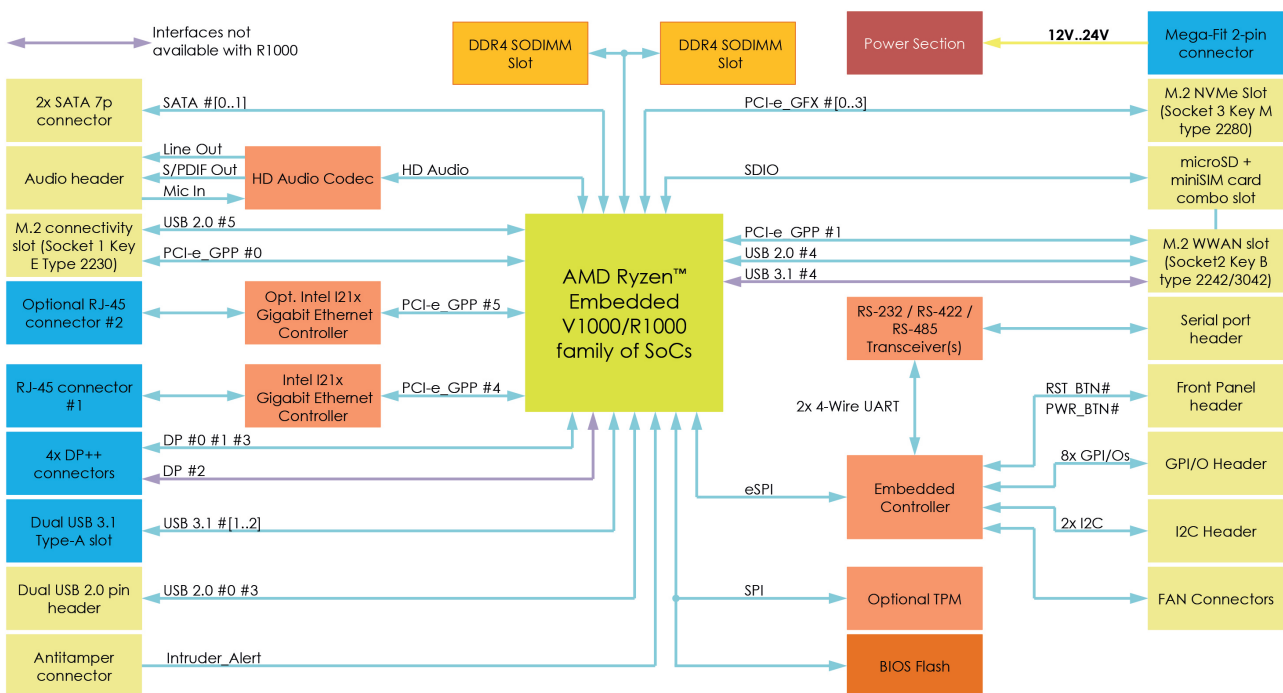
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FEATURES

 Operating Temperature*	0°C ÷ +60°C (Commercial version) -40°C ÷ +85°C (Industrial version, only for future SoCs in extended temperature range and with TDP ≤25W)
 Dimensions	146 x 102 mm (3.5" form factor)

*Measured at any point of SECO standard heatspreader for this product, during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider application-specific cooling solutions for the final system to keep the heatspreader temperature in the range indicated.

BLOCK DIAGRAM



Information subject to change. Please visit www.seco.com to find the latest version of this datasheet.

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