

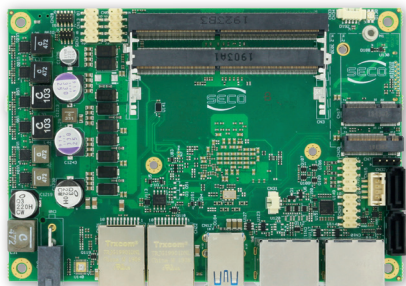
# Single Board Computer



## SBC-C90

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

Full connectivity on powerful AMD Ryzen™ platform



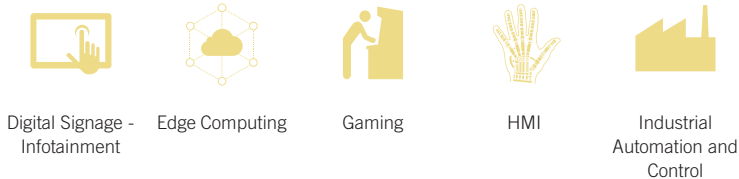
### HIGHLIGHTS

<b>CPU</b> AMD Ryzen™ Embedded V1000 and R1000 processors	<b>CONNECTIVITY</b> 2x GbE; M.2 WWAN and WLAN slots; 2x USB3.0; 2x USB 2.0; 8x GPIOs
<b>GRAPHICS</b> AMD Radeon™ Vega GPU with up to 11 Compute Units	<b>MEMORY</b> Two DDR4 SO-DIMM Slots supporting DDR4-3200/2400 ECC and non-ECC Memory

Available in Industrial Temperature Range



### MAIN FIELDS OF APPLICATION



### FEATURES

<b>Processor</b>	AMD Ryzen™ Embedded V1000 family SoCs: <ul style="list-style-type: none"> <li>• AMD Ryzen™ Embedded <b>V1807B</b> with AMD Radeon™ Vega 11 Graphics, Quad Core Dual Thread @ 3.35GHz (3.8 Boost), TDP 35-54W</li> <li>• AMD Ryzen™ Embedded <b>V1756B</b> with AMD Radeon™ Vega 8 Graphics, Quad Core Dual Thread @ 3.25GHz (3.6 Boost), TDP 35-54W</li> <li>• AMD Ryzen™ Embedded <b>V1605B</b> with GPU AMD Radeon™ Vega 8, Quad Core Dual Thread @ 2.0GHz (3.6 Boost), TDP 12-25W</li> <li>• AMD Ryzen™ Embedded <b>V1202B</b> with GPU AMD Radeon™ Vega 3, Dual Core Dual Thread @ 2.3GHz (3.2 Boost), TDP 12-25W</li> </ul> AMD Ryzen™ Embedded R1000 family SoCs: <ul style="list-style-type: none"> <li>• AMD Ryzen™ Embedded <b>R1606G</b> with GPU AMD Radeon™ Vega 3, Dual Core Dual Thread @ 2.6GHz (3.5 Boost), TDP 12-25W</li> <li>• AMD Ryzen™ Embedded <b>R1505G</b> with GPU AMD Radeon™ Vega 3, Dual Core Dual Thread @ 3.25GHz (3.6 Boost), TDP 12-25W</li> </ul>	<b>Mass Storage</b>	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
<b>Max Cores</b>	4	<b>Networking</b>	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)
<b>Memory</b>	2x DDR4 ECC and non-ECC SODIMM Slots Support DDR4-2400 memories (DDR4-3200 with V1807B and V1756B), up to 32GB total	<b>USB</b>	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
<b>Graphics</b>	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)	<b>Audio</b>	HD Audio codec Line Out + Microphone + S/PDIF Out interfaces on internal pin header
<b>Video Interfaces</b>	4x DP++ connectors (only 3 working with R1000 SoCs)	<b>PCI-e</b>	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
<b>Video Resolution</b>	DP++: Up to 4096 x 2160	<b>Serial Ports</b>	2 x RS-232/RS-422/RS-485 UARTS, on internal Pin Header
		<b>Other Interfaces</b>	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
		<b>Power Supply</b>	+12V <sub>DC</sub> ÷ +24 V <sub>DC</sub> RTC battery
		<b>Operating System</b>	Microsoft® Windows 10 (64-bit) Linux Ubuntu



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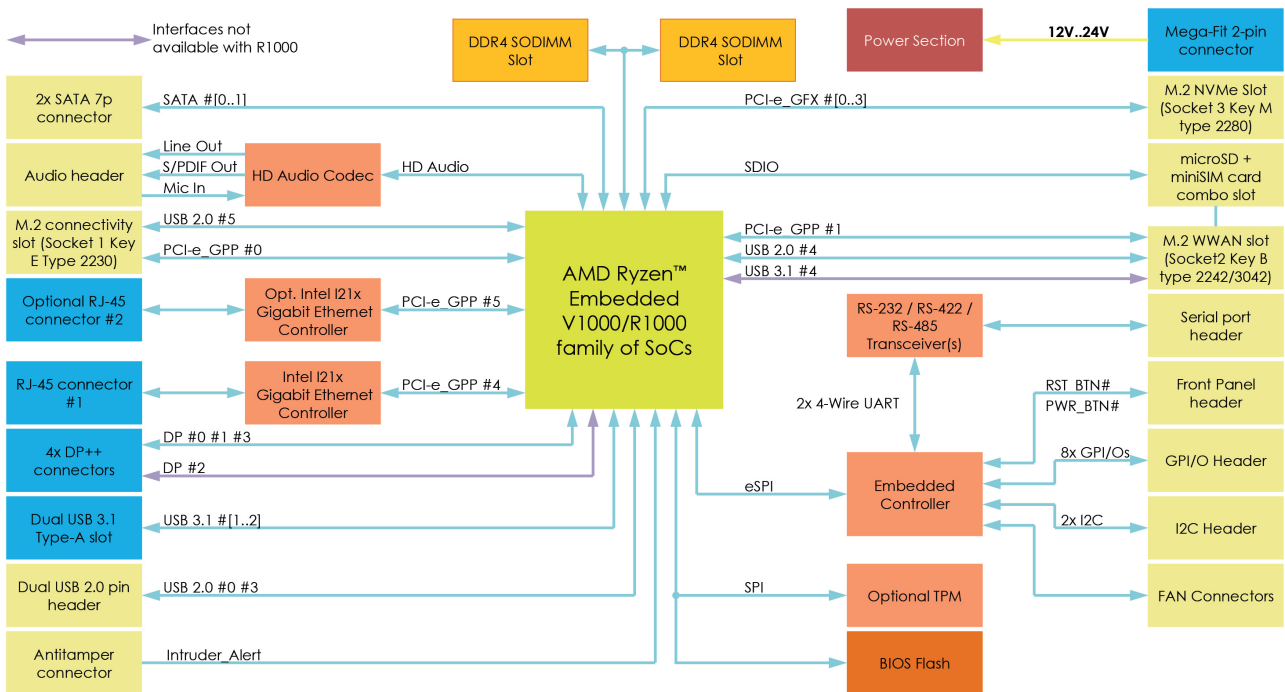
## 3.5" SBC with AMD Ryzen™ Embedded R1000 / V1000 family of SOCs

### 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



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