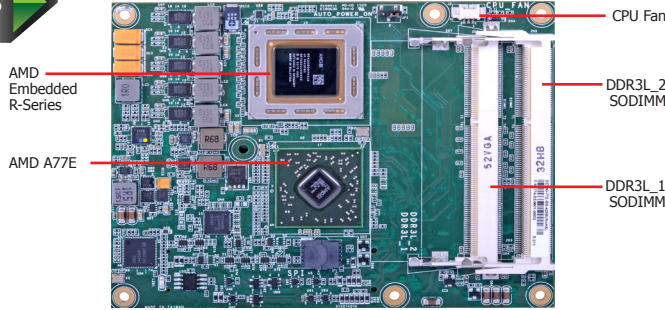




# BE960



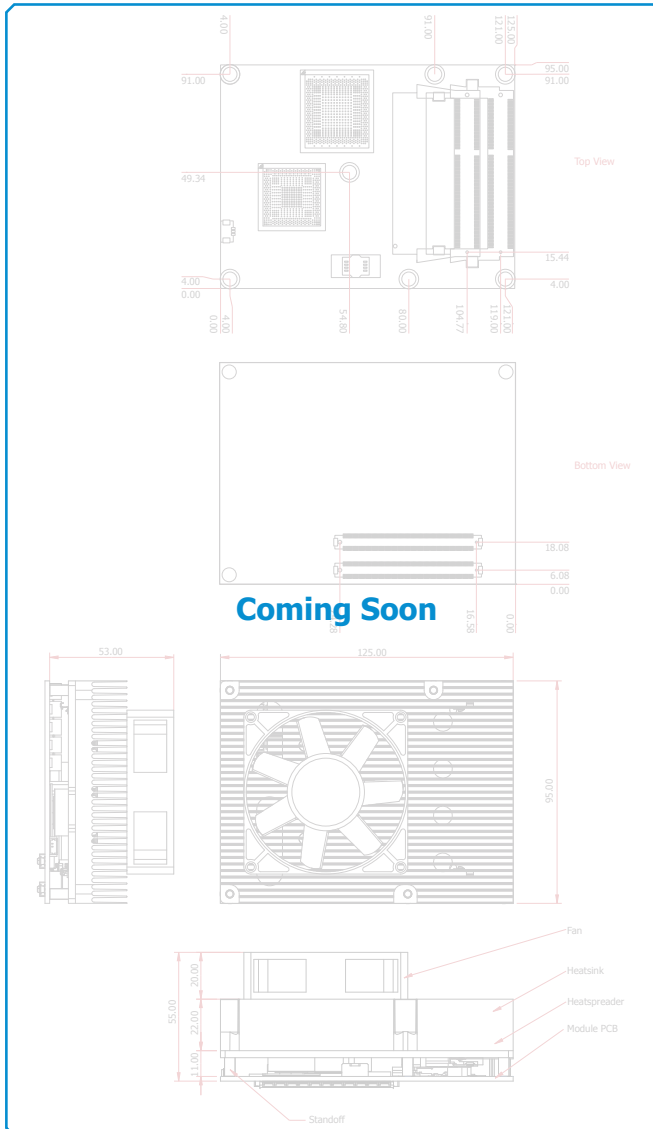
## Features

- 2 DDR3L 1866MHz SODIMM up to 16GB
- Four independent displays: VGA\*/DDI + LVDS\*/eDP + 2 DDI
- HDMI resolution up to 4096x2160 @ 24Hz
- Multiple expansion: 1 PCIe x16, 7 PCIe x1, 1 LPC, 1 I<sup>2</sup>C, 1 SMBus
- Rich I/O: 1 Intel GbE, 4 USB 3.0, 8 USB 2.0

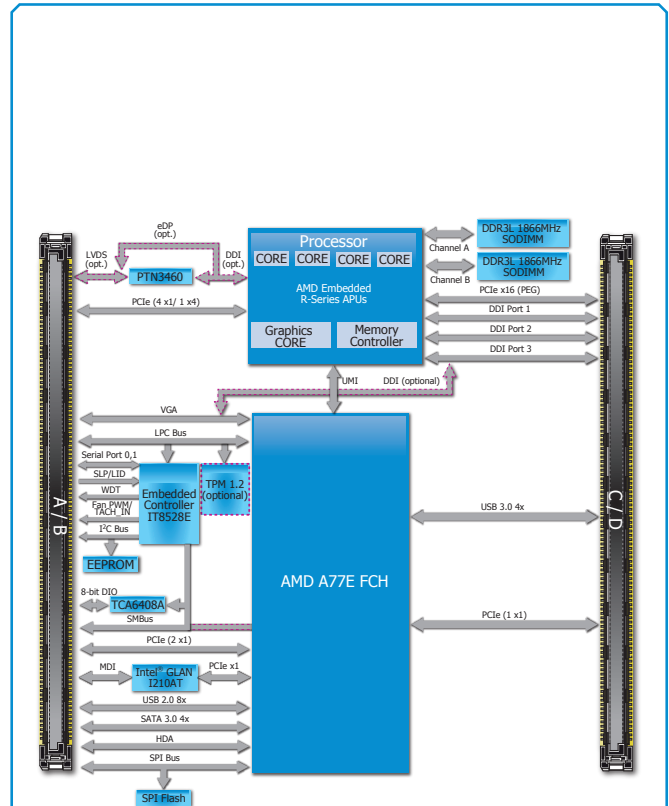
\* Populated by default



## Mechanical Drawing



## Block Diagram



PCIe L0~3		PCIe L4~5		PCIe L6~7	
x4					
x1	x1	x1	x1	-	-

\* 7 x PCIe x1 or 1 x PCIe x4 + 3 x PCIe x1 (Gen 2)

## Specifications

<b>SYSTEM</b>	<b>Processor</b>	2nd Generation AMD® Embedded R-Series APUs, FP3 BGA AMD® RX-427BB, Quad Core, 4M Cache, 2.7GHz (3.6GHz), 35W AMD® RX-425BB, Quad Core, 4M Cache, 2.5GHz (3.4GHz), 35W	
	<b>Chipset</b>	AMD® A77E Fusion Controller Hub	
	<b>Memory</b>	Two 204-pin SODIMM up to 16GB	Dual Channel DDR3L 1866MHz
	<b>BIOS</b>	AMI SPI 64Mbit	
<b>GRAPHICS</b>	<b>Controller</b>	AMD Radeon™ HD 9000 Series Graphics	
	<b>Feature</b>	OpenGL 4.2, OpenGL 3.1, Direct X 11.1, OpenCL 1.2 HW Decode: H.264, MPEG2, VC-1, MPEG4 (DivX), WMV HW Encode: H.264	
	<b>Display</b>	1 x VGA/DDI (DDI available upon request) 1 x LVDS/eDP (eDP available upon request) 2 x DDI (HDMI/DVI/DP++)	VGA: resolution up to 2048x1536 @ 75Hz LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz eDP: resolution up to 1920x1080 @ 60Hz HDMI: resolution up to 4096x2160 @ 24Hz or 1920x1080 @ 60Hz DVI: resolution up to 1920x1200 @ 60Hz DP++: resolution up to 3840x2160 @ 30Hz
	<b>Quad Displays</b>	VGA + LVDS + 2 DDI	eDP + 3 DDI
<b>EXPANSION</b>	<b>Interface</b>	1 x PCIe x16 (Gen 3) 7 x PCIe x1 or 1 x PCIe x4 + 3 x PCIe x1 (Gen 2) 1 x LPC 1 x I <sup>2</sup> C 1 x SMBus 2 x Serial (TX/RX)	
<b>AUDIO</b>	<b>Interface</b>	HD Audio	
<b>ETHERNET</b>	<b>Controller</b>	1 x Intel® I210AT PCIe (10/100/1000Mbps)	
<b>I/O</b>	<b>USB</b>	4 x USB 3.0 8 x USB 2.0	
	<b>SATA</b>	4 x SATA 3.0 (up to 6Gb/s)	
	<b>DIO</b>	1 x 8-bit DIO	
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>SECURITY</b>	<b>TPM</b>	Available Upon Request	
<b>POWER</b>	<b>Type</b>	12V, 5VSB, VCC_RTC (ATX mode)	12V, VCC_RTC (AT mode)
	<b>Consumption</b>	Typical: RX-427BB: 12V @ 1.33A (15.95Watt) Max.: RX-427BB: 12V @ 3.35A (40.18Watt)	
<b>OS SUPPORT</b>		Windows 8.1 64-bit Windows 7 (/WES7) 32/64-bit Windows 10 IoT Enterprise 64-bit	Debian 8 (with VESA graphic driver) CentOS 7 (with VESA graphic driver) Ubuntu 15.10 (Intel graphic driver available)
<b>ENVIRONMENT</b>	<b>Temperature</b>	Operating: 0 to 60°C	Storage: -40 to 85°C
	<b>Humidity</b>	Operating: 10 to 90% RH	Storage: 10 to 90% RH
	<b>MTBF</b>	822,620 hrs @ 25°C; 467,324 hrs @ 45°C; 293,581 hrs @ 60°C excluding accessories Calculation Model: Telcordia Issue 2, Method Case 3 Environment: GB, GC – Ground Benign, Controlled	
<b>MECHANICAL</b>	<b>Dimensions</b>	COM Express® Basic	95mm (3.74") x 125mm (4.9")
	<b>Compliance</b>	PICMG COM Express® R2.1, Type 6	

## Ordering Information

Model Name	P/N	Processor	SODIMM	VGA/DDI	LVDS/eDP	GbE	USB 3.0	USB 2.0	Power	Thermal	Temp.
BE960-77E-BS-427B	770-BE9601-200G	RX-427BB	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Cooler	0 to 60°C
BE960-77E-BS-425B	770-BE9601-000G	RX-425BB	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Cooler	0 to 60°C

## Packing List

• 1 BE960 board	
• 1 DVD	
• 1 Cooler (Height: 36.58mm)	A71-111026-000G

## Optional Items

• COM332-B carrier board kit	770-CM3321-000G
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