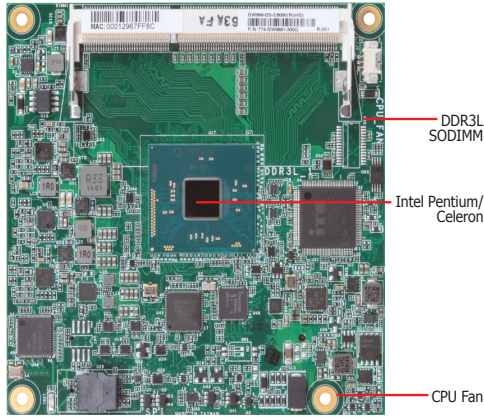




**Intel® Pentium®/Celeron® Processor N3000 Family  
COM Express® Compact**



**BW968**



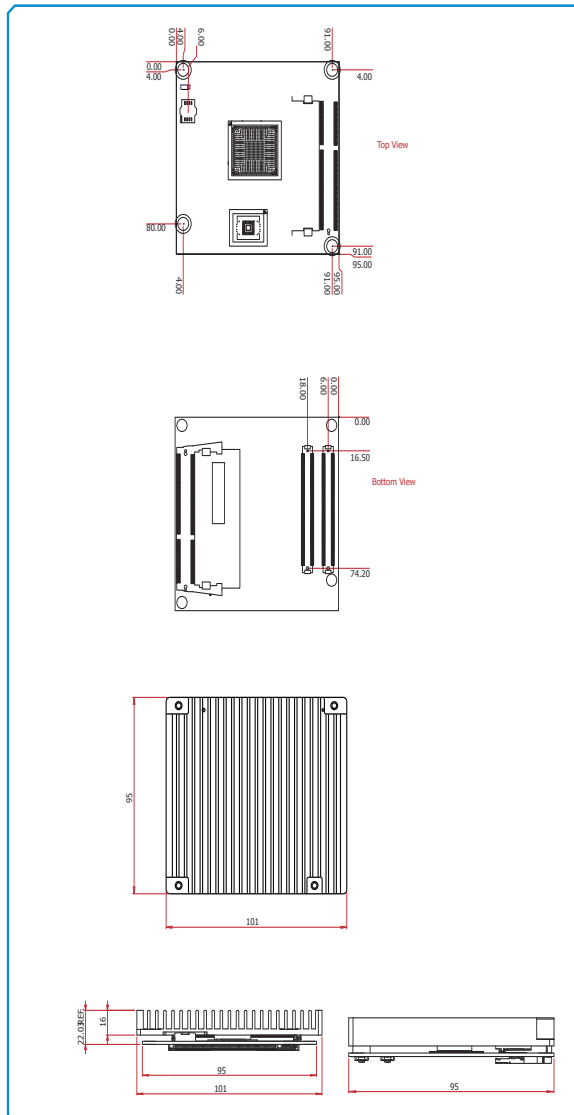
**Features**

- Dual channel DDR3L 1600MHz SODIMM up to 8GB
- Three independent displays: VGA\*/DDI + LVDS\*/eDP + DDI
- DP++ resolution supports up to 3840x2160 @ 30Hz
- Multiple expansion: 3 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

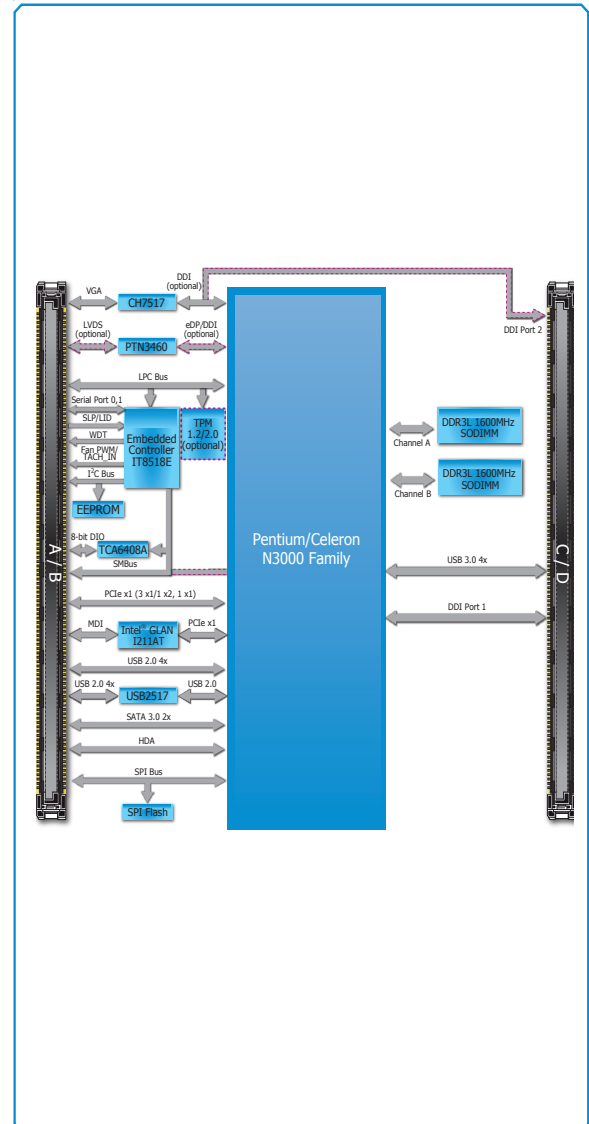
\* Populated by default



**Mechanical Drawing**



**Block Diagram**





**Specifications**

<b>SYSTEM</b>	<b>Processor</b>	Intel® Pentium®/Celeron® Processor N3000 Family, BGA 1170 Intel® Atom™ Processor x5-E8000, Quad Core, 2M Cache, 1.04GHz, 5W Intel® Pentium® Processor N3710, Quad Core, 2M Cache, 1.6GHz (2.56GHz), 6W Intel® Celeron® Processor N3160, Quad Core, 2M Cache, 1.6GHz (2.24GHz), 6W Intel® Celeron® Processor N3060, Dual Core, 2M Cache, 1.6GHz (2.48GHz), 6W Intel® Celeron® Processor N3010, Dual Core, 2M Cache, 1.04GHz (2.24GHz), 4W	
	<b>Memory</b>	Two 204-pin SODIMM up to 8GB	Dual Channel DDR3L 1600MHz
	<b>BIOS</b>	Insyde SPI 64Mbit	
	<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics
	<b>Feature</b>	OpenGL 4.2, Direct X 11.1, OpenCL 1.2, OGL ES 3.0 HW Decode: H.264, MPEG2, VC1, VP8, H.265, MPEG4 HW Encode: H.264, MPEG2, MPEG4	
	<b>Display</b>	1 x VGA/DDI (DDI available upon request) 1 x LVDS/eDP (eDP available upon request) 1 x DDI	VGA: resolution up to 1920x1200 @ 60Hz LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz eDP: resolution up to 2560x1440 @ 60Hz HDMI: resolution up to 3840x2160 @ 30Hz or 2560x1600 @ 60Hz DP: resolution up to 3840x2160 @ 30Hz or 2560x1600 @ 60Hz
	<b>Triple Displays</b>	VGA + LVDS + DDI	DDI + eDP + DDI (available upon request)
<b>EXPANSION</b>	<b>Interface</b>	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® I211AT PCIe (10/100/1000Mbps)	
<b>I/O</b>	<b>USB</b>	4 x USB 3.0 8 x USB 2.0	
	<b>SATA</b>	2 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: N3710: 12V @ 0.28A (3.41Watt) Max.: N3710: 12V @ 0.61A (7.35Watt)	
<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>	746,818 hrs @ 25°C; 402,691 hrs @ 45°C; 241,711 hrs @ 60°C Calculation Model: Telcordia Issue 2, Method Case 3 Environment: GB, GC – Ground Benign, Controlled	
<b>MECHANICAL</b>	<b>Dimensions</b>	COM Express® Compact	95mm (3.74") x 95mm (3.74")
	<b>Compliance</b>	PICMG COM Express® R2.1, Type 6	

**Ordering Information**

Model Name	P/N	Processor	Memory	VGA/DDI	LVDS/eDP	GbE	USB 3.0	USB 2.0	Power	Thermal	Temp.
<b>BW968-BS-N3710</b>	770-BW9681-000G	N3710	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C
<b>BW968-BS-N3060</b>	770-BW9681-200G	N3060	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C
<b>BW968-BS-E8000</b>	770-BW9681-300G	x5-E8000	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C

Note: N3160 and N3010 are supported upon request with MOQ requirement.

**Packing List**

• 1 BW968 board	
• 1 DVD	
• 1 Heat sink (Height: TBD)	TBD

**Optional Items**

• COM332-B carrier board kit	770-CM3321-000G
• Heat spreader (Height: 11mm)	A71-011070-000G

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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