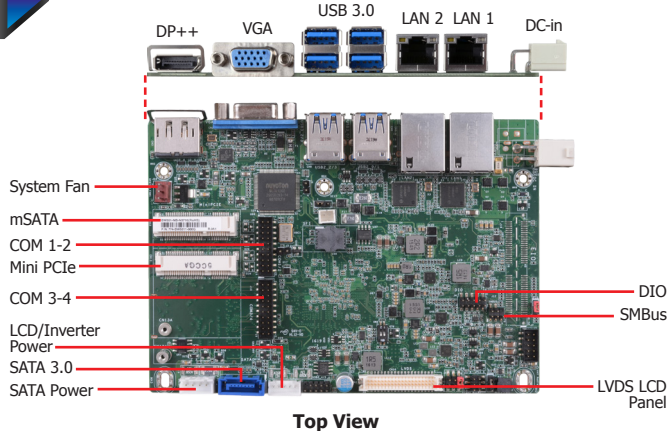
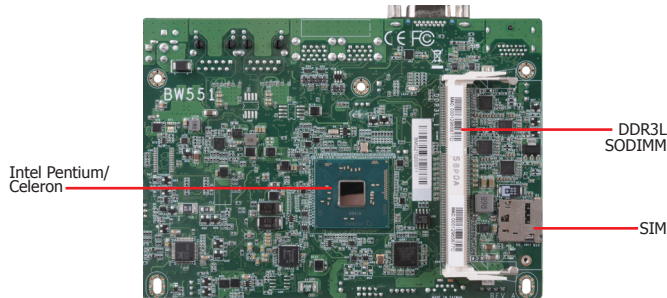


## BW551

Atom



Top View



Bottom View

### Features

- 1 DDR3L SODIMM up to 8GB
- Three independent displays: VGA + LVDS + DP++
- DP++ resolution up to 3840x2160 @ 60Hz  
Dual Channel LVDS resolution up to 1920x1200 @ 60Hz
- Wireless communication: Mini PCIe with SIM slot
- Rich I/O: 2 Intel GbE, 4 COM, 4 USB 3.0, 2 USB 2.0



### Ordering Information

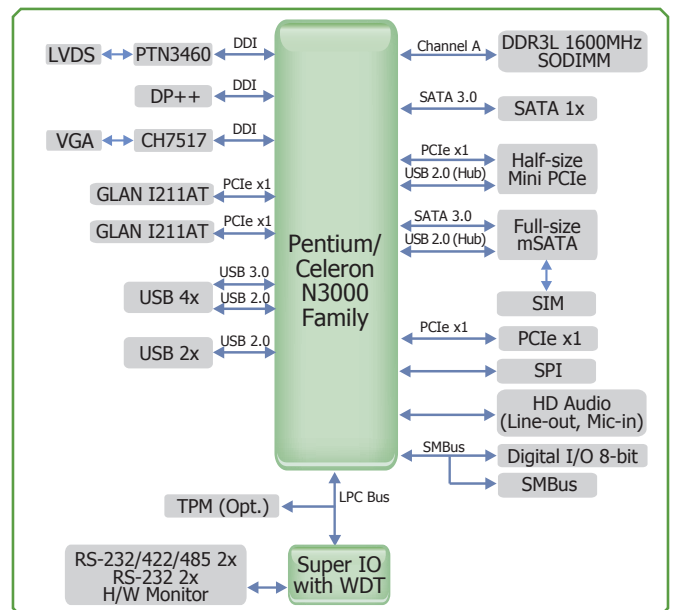
Model Name	P/N	Processor	Memory	GbE	RS-232/422/485	RS-232	USB 3.0	USB 2.0	Power	Thermal	Temp.
BW551-NB-E8000	770-BW5511-300G	x5-E8000	1 SODIMM	2	2	2	4	2	12V DC	Fanless	0 to 60°C
BW551-NB-N3710	770-BW5511-000G	N3710	1 SODIMM	2	2	2	4	2	12V DC	Fanless	0 to 60°C
BW551-NB-N3060	770-BW5511-100G	N3060	1 SODIMM	2	2	2	4	2	12V DC	Fanless	0 to 60°C

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

### 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>	One 204-pin SODIMM up to 8GB Single 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 1 x LVDS 1 x DP++ VGA: resolution up to 1920x1200 @ 60Hz LVDS: dual channel 48-bit, resolution up to 1920x1200 @ 60Hz DP: resolution up to 3840x2160 @ 30Hz or 2560x1600 @ 60Hz
	<b>Triple Displays</b>	VGA + LVDS + DP++
<b>EXPANSION</b>	<b>Interface</b>	1 x Half-size Mini PCIe (PCIe/USB) 1 x Full-size mSATA (USB/SATA) 1 x SIM
<b>AUDIO</b>	<b>Audio Codec</b>	Realtek ALC888S-VD2-GR
<b>ETHERNET</b>	<b>Controller</b>	2 x Intel® I211AT PCIe (10/100/1000Mbps)
<b>REAR I/O</b>	<b>Ethernet</b>	2 x GbE (RJ-45)
	<b>USB</b>	4 x USB 3.0
	<b>Display</b>	1 x VGA 1 x DP++
<b>INTERNAL I/O</b>	<b>Serial</b>	2 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch) 2 x RS-232 (2.0mm pitch)
	<b>USB</b>	2 x USB 2.0 (2.0mm pitch)
	<b>Display</b>	1 x LVDS LCD Panel Connector 1 x LCD/Inverter Power
	<b>Audio</b>	1 x Audio (Line-out/Mic-in)
	<b>SATA</b>	1 x SATA 3.0 (up to 6Gb/s) 1 x SATA Power
	<b>DIO</b>	1 x 8-bit DIO
	<b>SMBus</b>	1 x SMBus
<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>	Single 12V +/-10% DC
	<b>Connector</b>	Right Angle Connector (4-pin) DC-in Jack(available upon request) Vertical Type Connector (4-pin) (available upon request)
	<b>Consumption</b>	BW551 Typical: N3710:12V @ 0.53A (6.36Watt) Max.: N3710:12V @ 1.14A (13.68Watt)
	<b>RTC Battery</b>	Lithium 3V (210mAH)
<b>OS SUPPORT</b>	<b>Microsoft/Linux</b>	Windows 7 (/WES7) 32/64-bit Windows 8.1 (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>	BW551 : 411,490 hrs @ 25°C; 250,359 hrs @ 45°C ; 160,650 hrs @ 60°C Calculation model: Telcordia Issue 2, Method I Case 3 Environment: GB, GC – Ground Benign, Controlled
<b>MECHANICAL</b>	<b>Dimensions</b>	3.5" SBC Form Factor 146mm (5.75") x 102mm (4.02")
	<b>Height</b>	PCB: 1.6mm Top Side: TBD, Bottom Side: TBD

**Packing List**

• 1 BW551 board	
• 1 COM port cable (Length: 300mm)	A81-015020-001G
• 1 Serial ATA data cable (Length: 500mm)	332-553001-005G
• 1 Serial ATA power cable (Length: 250mm)	A81-004041-016G
• 1 DVD	
• 1 Heat sink (Height: 17.5mm)	A71-010034-000G

**Optional Items**

• USB port cable (Length: 200mm)	A81-001032-016G
• COM port cable (Length: 300mm)	A81-015020-001G
• Serial ATA data cable (Length: 500mm)	332-553001-005G
• Serial ATA power cable (Length: 250mm)	A81-004041-016G
• Power adapter (60W, 12V) (Length: TBD)	671-106002-102G
• Power adapter (100W, 12V) (Length: TBD)	671-110002-100G
• Power Cable	A81-004051-016G
• Heat spreader (Height: TBD)	TBD
• 1 Audio cable (Length: 160mm)	A81-022007-016G