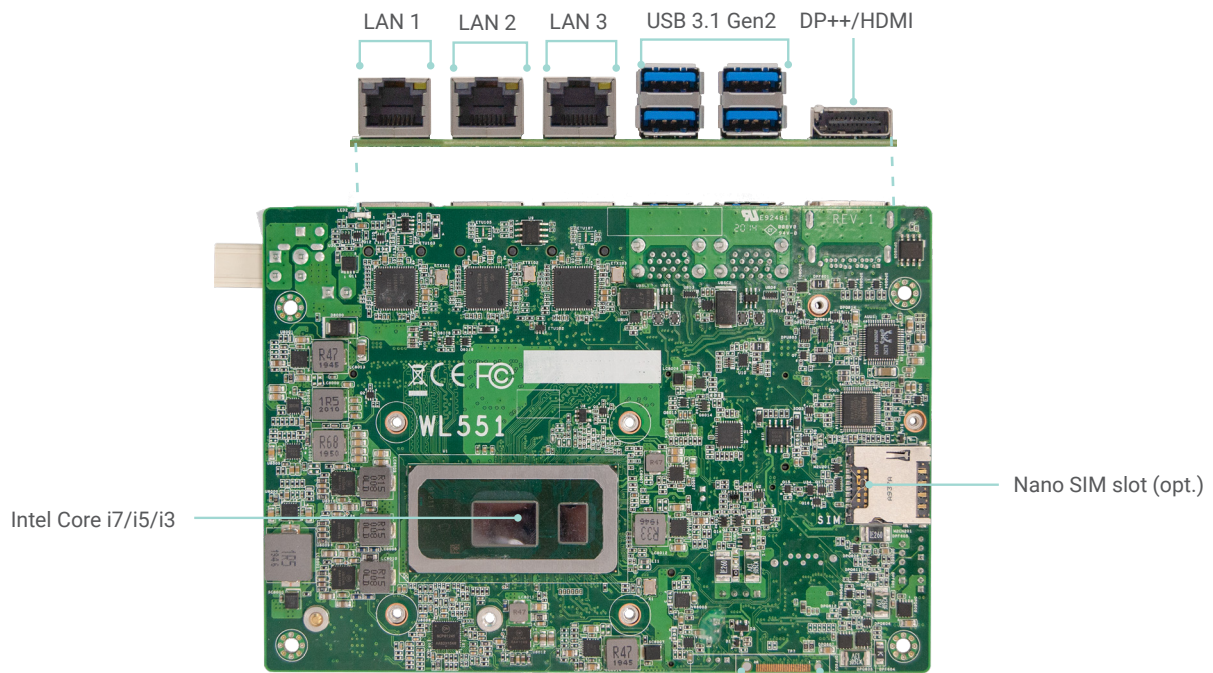
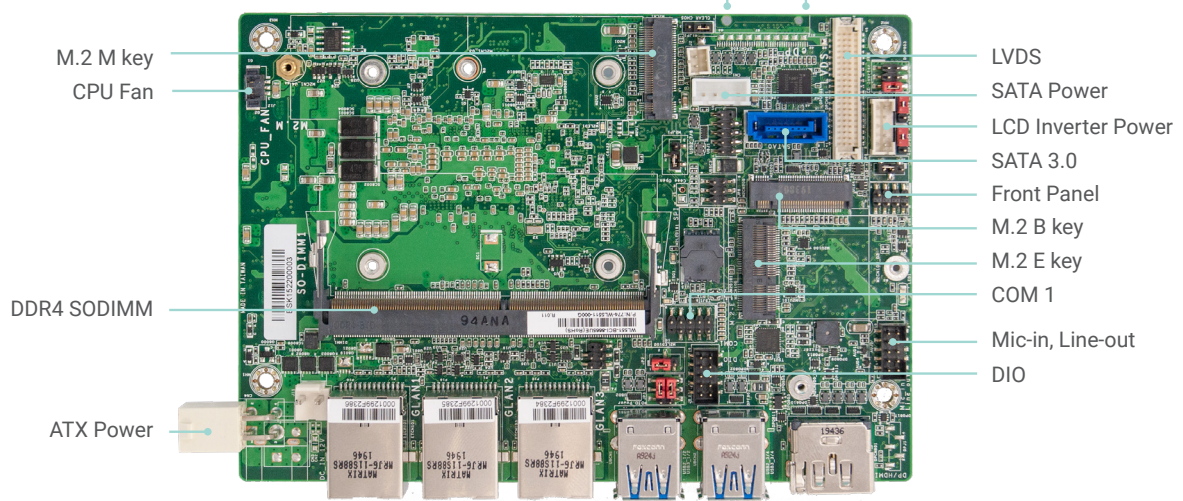


# WL551

8th Gen Intel® Core™  
3.5" SBC



Bottom View eDP connector (opt.)



Top View

## KEY FEATURES



### DDR4

1 DDR4 2400MHz SOD-  
IMM up to 32GB



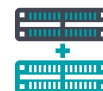
### 4K High Resolution

Supports 4K/2K resolu-  
tion



### 2 Independent Displays

1 DP++/HDMI ,  
1 LVDS or eDP (opt.)



### Multiple Expansion

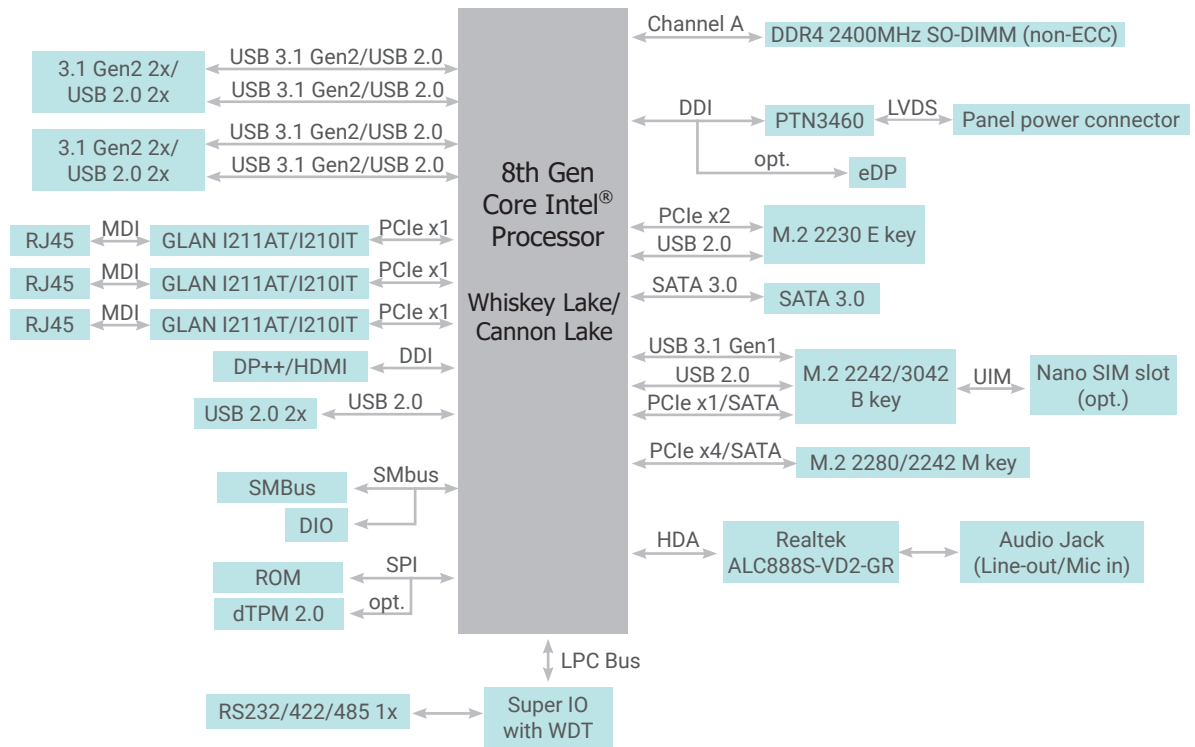
1 M.2 M Key,  
1 M.2 B Key,  
1 M.2 E Key



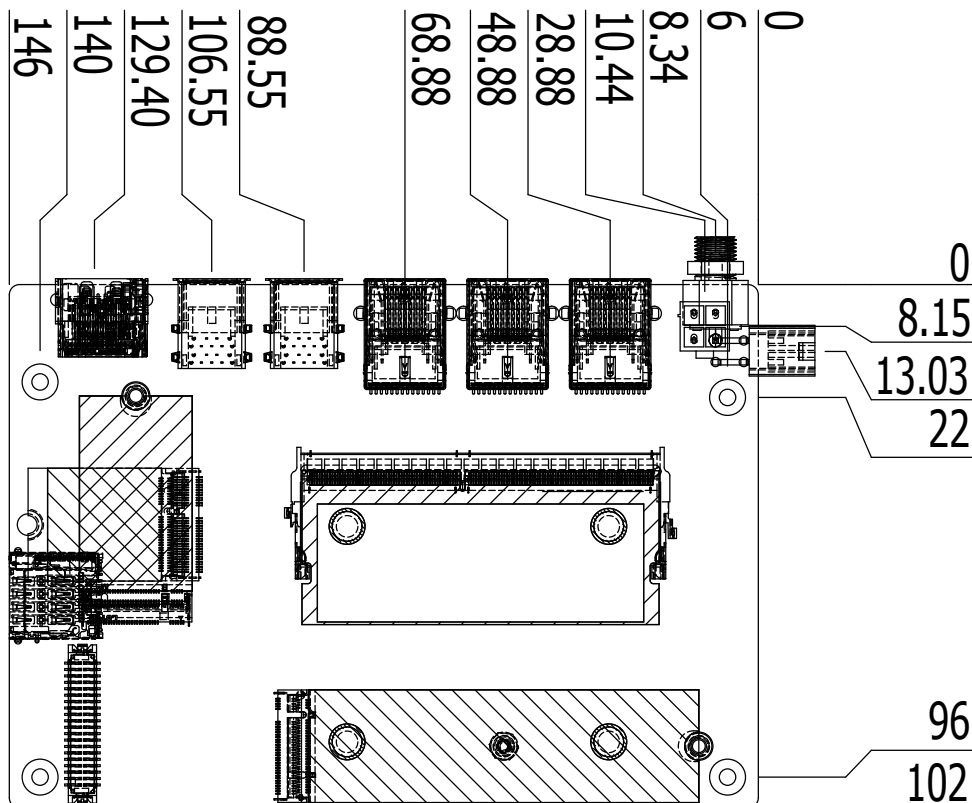
### Rich I/O

3 Intel GbE, 1 COM,  
4 USB 3.1 Gen2,  
2 USB 2.0

## BLOCK DIAGRAM



## MECHANICAL DRAWING



## SPECIFICATION

System	Processor	8th Generation Intel® Core™ Processors, BGA 1528 Intel® Core™ i7-8665UE, Quad Core, 8M Cache, 1.7GHz (4.4GHz), 15W Intel® Core™ i5-8365UE, Quad Core, 6M Cache, 1.6GHz (4.1GHz), 15W Intel® Core™ i3-8145UE, Dual Core, 4M Cache, 2.2GHz (3.9GHz), 15W Intel® Core™ Celeron® 4305UE, Dual Core, 2M Cache, 2.0GHz (2.0GHz), 15W	
	Memory	One 260-pin SODIMM up to 32GB Single Channel DDR4 up to 2400MHz	
	BIOS	AMI SPI 128Mbit	
Graphics	Controller	Intel® UHD Graphics 620/ Intel® UHD Graphics 610 (for Celeron 4305UE)	
	Feature	OpenGL 4.5, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9	
	Display	1 x DP++/HDMI 1 x LVDS or 1 x eDP (opt.) DP++: resolution up to 4096x2160@60Hz HDMI1.4: resolution up to 3840x2160@30Hz LVDS: resolution up to 1920x1200 @60Hz eDP: resolution up to 3840x2160 @ 60Hz	
		Dual Displays	1x COMBO port (DP++/HDMI) + 1 x LVDS 1x COMBO port (DP++/HDMI) + 1 x eDP (opt.)
		Interface	1 x M.2 M key 2280/2242 (PCIe x4/SATA 3.0) 1 x M.2 B key 3042/2242 (USB 3.1 Gen1/USB 2.0/SATA 3.0 or PCIe x1) Support Nano SIM slot (opt.) 1 x M.2 E key 2230 (PCIe x2/USB 2.0) Support Innodisk InnoAGE™ SSD
Audio Codec		Realtek ALC888S-VD2-GR	
Ethernet	Controller	3 x Intel® I211AT PCIe (10/100/1000Mbps) or 3 x Intel® I210IT PCIe (10/100/1000Mbps)	
Rear I/O	Ethernet	3 x GbE (RJ-45)	
	USB	4 x USB 3.1 Gen 2	
	Display	1 x COMBO port (DP++/HDMI)	
Internal I/O	Serial	1 x RS-232/422/485 (2.00mm pitch) RS485 support auto flow control	
	USB	2 x USB 2.0 (2.00mm pitch)	
	Display	1 x LVDS LCD Panel connector or 1 x eDP LCD panel connector 1 x LCD/Intverter Power	
	Audio	1 x Audio (Line-out/Mic-in)	
	SATA	1 x SATA 3.0 (up to 6Gb/s) 1 x SATA Power	
	DIO	1 x 8-bit DIO	
	SMBus	1 x SMBus	
Watchdog Timer	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
Security	TPM	fTPM2.0 (default) dTPM2.0 (opt.)	
Power	Type	Single 12V +/-10% DC	
	Connector	4-pin Right Angle Type Connector (default) DC Jack (available upon request) 4-pin Vertical Type Connector (available upon request)	
	Consumption	Typical: 8665UE, 12V @ 0.64A (7.68W) Max: 8665UE, 12V @ 2.5A (30W)	
	RTC Battery	CR2032 Coin Cell	
OS Support	OS Support (UEFI Only)	Windows 10 IoT Enterprise (64-bit) Linux	
Environment	Temperature	Operating: -5 to 65°C, -20 to 80°C Storage: -40 to 85°C	
		Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH
	MTBF	495,295 hrs @ 25°C; 326,059 hrs @ 45°C; 223,300 hrs @ 60°C; 128,660 hrs @ 80°C	
Mechanism	Dimensions	3.5" SBC Form Factor 146mm (5.75") x 102mm (4.02")	
	Height	PCB: 1.6mm Top Side: 15mm Bottom Side: 4mm	
		Certifications	CE, FCC, RoHS, UKCA, KC

## ORDERING INFORMATION

Model Name	P/N	Processor	Memory	GbE	Display	RS-232/422/485	USB 3.1 Gen1	USB 2.0	Power	Temp.
WL551-BCI-8665UE	770-WL5512-000G	i7-8665UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-5 to 65°C
WL551-BCI-8365UE	770-WL5512-100G	i5-8365UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-5 to 65°C
WL551-BCI-8145UE	770-WL5512-200G	i3-8145UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-5 to 65°C
WL551-BCI-4305UE	770-WL5512-300G	Celeron-4305UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-5 to 65°C
WL551-ECI-8665UE	770-WL5512-400G	i7-8665UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-20 to 80°C
WL551-ECI-8365UE	770-WL5512-500G	i5-8365UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-20 to 80°C
WL551-ECI-8145UE	770-WL5512-600G	i3-8145UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-20 to 80°C
WL551-ECI-4305UE	770-WL5512-700G	Celeron-4305UE	1 SODIMM	3	DP++/HDMI + LVDS	1	4	2	12V DC	-20 to 80°C

## PACKING LIST

1 WL551 board	
1 SATA cable (Length: 300mm)	332-553001-205G
1 SATA power cable (Length: 250mm)	A81-004041-016G
1 COM cable (Length: 250mm)	332-753040-000G
1 Heatsink -5~65°C/-20 to 80°C (Height: 35.5mm)	A71-008152-000G

## OPTIONAL ITEMS

4-pin power to DC jack cable (Length: 100mm)	A81-004051-016G
Power adapter (60W, 12V, DC Jack)	671-106012-000G
Heat spreader (Height: 11mm)	A71-808333-000G
USB 2.0 cable (Length: 200mm)	A81-001032-016G
Audio cable (Length: 160mm)	A81-022007-016G