



## SLP-WHG-TSN

8th Gen Intel® Core™ Processor Core™ SoC  
i7/i5/i3 & Celeron® BGA Processor Fanless  
Expandable Slot PC with TSN Gigabit Ethernet  
PCIe NIC Card

- > Onboard 8th Gen Intel Core SoC i7/i5/i3 & Celeron BGA Processor
- > 2 x 260-pin DDR4 2133 MHz SO-DIMM Socket, up to 32GB Max (Non ECC Only)
- > Rich I/O, 3-USB3.1, 3-HDMI, 4-COM, 3-LAN, 4-TSN Gigabit Ethernet
- > 1 x Key A M.2 2230 supports Wi-Fi & BT Module, 1 x M.2 Key-B 3042/2242/2260/2280 with internal SIM slot
- > Fanless operation temperature from -20°C ~ 50°C
- > CE/FCC Class A
- > Wide range DC power input from +12~24V
- > Support TSN Timing and Synchronization for Time-Sensitive Applications compliant to IEEE 802.1AS-Rev/AS, and IEEE 1588V2

### + Spec

-System Information-	
<b>Processor</b>	Onboard 8th Gen Intel® Core™ SoC i7/i5/i3 & Celeron® BGA Processor Intel® Core™ i7-8665UE (15W, 8M Cache, up to 2.0 GHz) Intel® Core™ i5-8365UE (15W, 8M Cache, up to 1.8 GHz) Intel® Core™ i3-8145UE (15W, 4M Cache, up to 1.6 GHz) Intel® Core™ Celeron 4305UE (15W, 2M Cache)
<b>System Memory</b>	2 x 260-pin SODIMM socket Max. up to 32GB DDR4 2133MT/s
<b>BIOS Information</b>	AMI uEFI BIOS 256 Mbit SPI Flash ROM
<b>Watchdog Timer</b>	H/W Reset, 1sec. ~ 65535sec.
<b>H/W Status Monitor</b>	Monitoring CPU & System Temperature and Voltage
<b>TPM</b>	Onboard TPM 2.0
<b>SBC</b>	EMX-WHLGP
Expansion	
<b>M.2</b>	1 x M.2 Key-A 2230 for Wi-Fi & BT Module 1 x M.2 Key-B 3042/2242/2260/2280, supports SATA 3/PCIe III x 1/USB 2.0 and internal SIM slot 1
<b>PCIe</b>	1 x PCIe*1 slot 1 x PCIe*4 slot w/ASIX TSN Card: Quad Port TSN Gigabit Ethernet PCIe NIC Card
Storage	
<b>Storage</b>	1 x M.2 Key-B 3042/2242/2260/2280, support SSD(share with expansion slot) 1 x 2.5" Drive Bay (internal)
I/O	
<b>USB Port</b>	3 x USB3.1 Gen1 1 x USB Type C w/o ALT mode
<b>COM Port</b>	4 x RS-232
<b>SIM Slot</b>	1 x Internal SIM slot
<b>Antenna</b>	2 x Antenna with dust cover
<b>Wire-Control Power On/Off</b>	2-Pin Terminal Block
<b>PS/2</b>	1 x PS/2 Keyboard 1 x PS/2 Mouse
System Control	
<b>Power Button</b>	1 x Power On/Off
<b>LED Indicator</b>	1 x Power LED 1 x HDD LED
Display	
<b>Graphic Chipset</b>	Intel® Processor Graphics
<b>Spec. &amp; Resolution</b>	3 x HDMI 1.4b: 3840 x 2160 @ 30 Hz
<b>Multiple Display</b>	Triple Display
Certifications	
<b>Certification Information</b>	CE/FCC Class A
Ethernet	
<b>LAN Chipset</b>	1 x Intel® I219-LM 2 x Intel® I210-IT
<b>LAN Port</b>	3 x RJ-45 GbE 4 x RJ45 for TSN Gigabit Ethernet
Power Requirement	
<b>DC Input</b>	DC in +12V ~ +24V), wide voltage
<b>DC Input Connector</b>	3-Pin Terminal Block (V+, V-, GND)
<b>Power Mode</b>	AT/ATX (ATX is default setting)
Mechanical & Environmental	
<b>Operating Temperature</b>	-20~50°C (41°F ~ 122°F) w/Industrial SSD, ambient w/ 0.5m/s air flow
<b>Storage Temperature</b>	-30°C ~ 70°C (-22°F ~ 158°F)



<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Dimension (W x L x H)</b>	217 mm x 115 mm x 220 mm
<b>Weight</b>	2.6 kg (System) 3.4 kg (w/ Package)
<b>Vibration Test</b>	With SSD : 1.5 Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
<b>Shock Test</b>	With SSD : 10Grms, IEC 60068-2-29, Half Sine, 11ms
<b>Drop</b>	Complied with ISTA 2A
<b>Software Support</b>	
<b>OS Information</b>	Win 10 64bit Linux
<b>Ordering Information</b>	
<b>Ordering Information</b>	SLP-WHG-TSN 8th Gen Intel® Core™ Processor Core™ SoC i7/i5/i3 & Celeron® BGA Processor Fanless Expandable Slot PC with TSN Gigabit Ethernet PCIe NIC Card SLP-WHG-86-A1-2R ( i7-8665UE) SLP-WHG-83-A1-2R ( i5-8365UE) SLP-WHG-81-A1-2R ( i3-8145UE)