



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-	
Processor	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)
System Memory	2 x 260-pin SODIMM socket Max. up to 32GB DDR4 2133MT/s
BIOS Information	AMI uEFI BIOS 256 Mbit SPI Flash ROM
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
TPM	Onboard TPM 2.0
SBC	EMX-WHLGP
Expansion	
M.2	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
PCIe	1 x PCIe*1 slot 1 x PCIe*4 slot w/ASIX TSN Card: Quad Port TSN Gigabit Ethernet PCIe NIC Card
Storage	
Storage	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	
USB Port	3 x USB3.1 Gen1 1 x USB Type C w/o ALT mode
COM Port	4 x RS-232
SIM Slot	1 x Internal SIM slot
Antenna	2 x Antenna with dust cover
Wire-Control Power On/Off	2-Pin Terminal Block
PS/2	1 x PS/2 Keyboard 1 x PS/2 Mouse
System Control	
Power Button	1 x Power On/Off
LED Indicator	1 x Power LED 1 x HDD LED
Display	
Graphic Chipset	Intel® Processor Graphics
Spec. & Resolution	3 x HDMI 1.4b: 3840 x 2160 @ 30 Hz
Multiple Display	Triple Display
Certifications	
Certification Information	CE/FCC Class A
Ethernet	
LAN Chipset	1 x Intel® I219-LM 2 x Intel® I210-IT
LAN Port	3 x RJ-45 GbE 4 x RJ45 for TSN Gigabit Ethernet
Power Requirement	
DC Input	DC in +12V ~ +24V, wide voltage
DC Input Connector	3-Pin Terminal Block (V+, V-, GND)
Power Mode	AT/ATX (ATX is default setting)
Mechanical & Environmental	
Operating Temperature	-20~50°C (41°F ~ 122°F) w/Industrial SSD, ambient w/ 0.5m/s air flow
Storage Temperature	-30°C ~ 70°C (-22°F ~ 158°F)



Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Dimension (W x L x H)	217 mm x 115 mm x 220 mm
Weight	2.6 kg (System) 3.4 kg (w/ Package)
Vibration Test	With SSD : 1.5 Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Test	With SSD : 10Grms, IEC 60068-2-29, Half Sine, 11ms
Drop	Complied with ISTA 2A
Software Support	
OS Information	Win 10 64bit Linux
Ordering Information	
Ordering Information	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 (i7-8145UE) SLP-WHG-43-A1-2R (Celeron 4305UE)