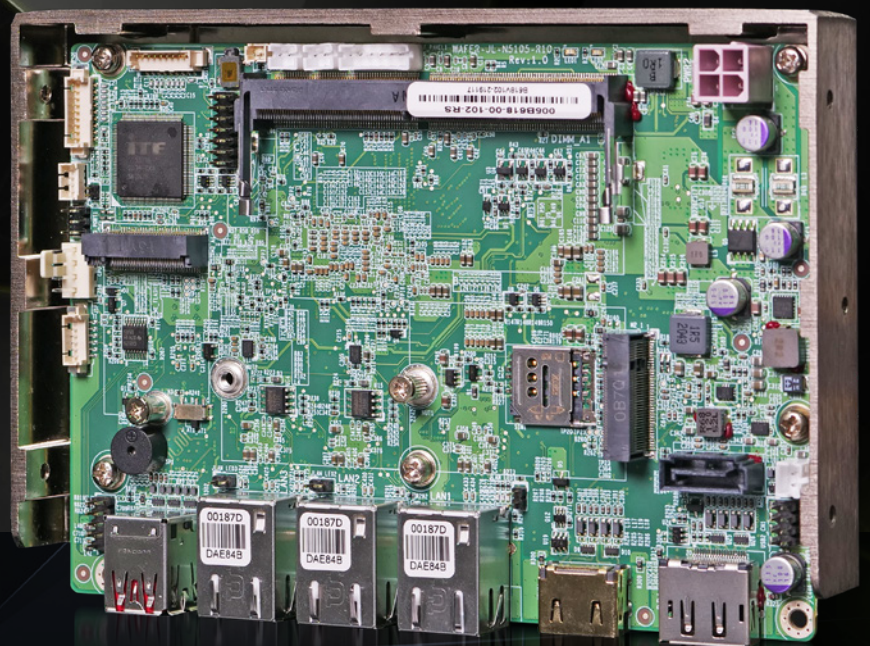
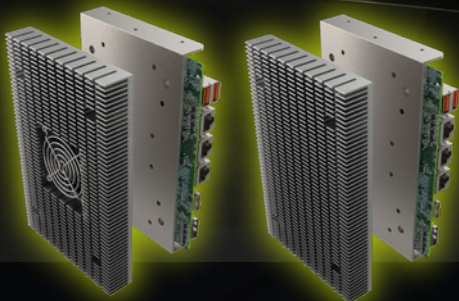


# WAFER-JL-N5105

Intel® Celeron® N5105 powered 3.5" embedded board

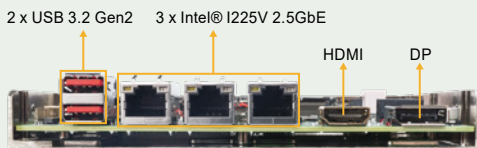
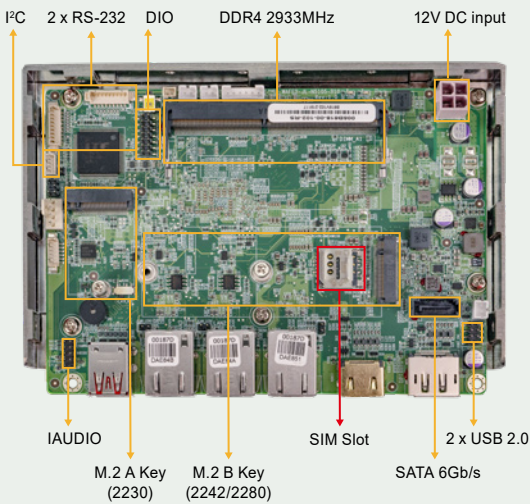
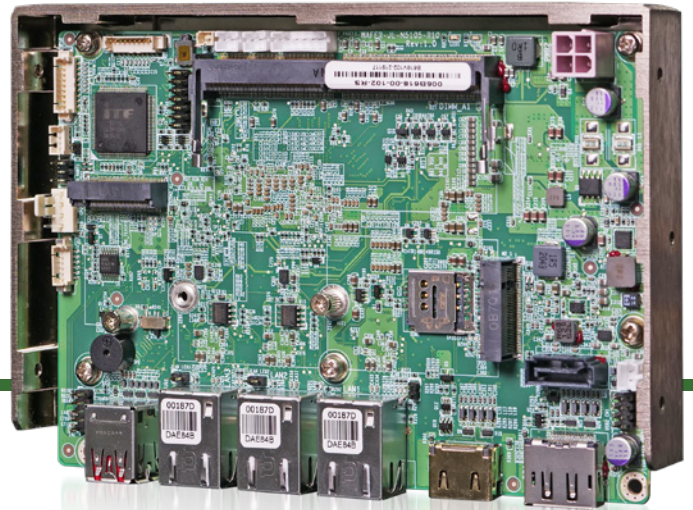
- Intel® Celeron® N5105 on-board SoC, 4 cores and 4 threads, 2.00GHz base frequency
- Three Intel® I225V 2.5GbE ports
- Two USB 3.2 Gen 2, two USB 2.0, two RS-232
- M.2 A key and M.2 B key expansions
- Support dual independent display via HDMI and DP

**Excellent Thermal Solution**



# WAFER-JL-N5105

ATX motherboard supports 10th/11th Generation Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor, DDR4 memory, triple independent display, dual 2.5GbE LAN, M.2, USB 3.2, SATA 6Gb/s, HD Audio and RoHS



## Advanced Jasper Lake Platform

The new generation of Intel ultra-low power processor, the Jasper Lake series, is built with the new 10nm process and Tremont architecture, and integrated with 11th gen Intel® UHD Graphics.



## 10W Low-power Intel® Celeron® N5105 CPU

10nm Intel® Celeron® N5105 on-board SoC features 4 cores, 4 threads, 2.0GHz base frequency, up to 2.9GHz turbo frequency and 4MB cache.



## Supporting Intel® I225V 2.5GbE Controllers

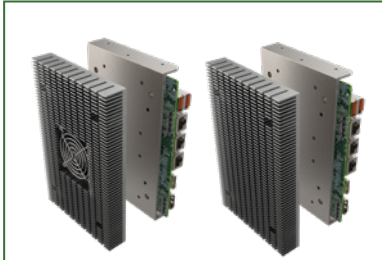
Three RJ45 network interfaces are supported via Intel® I225V 2.5GbE controllers, achieving up to 2.5GbE network transmission rate



## Rich I/O Interface

The WAFER-JL supports two external USB 3.2 Gen 2 (10Gb/s) ports, providing lightning-fast data transfer rate. The internal USB 2.0 ports, M.2 A key slot and M.2 B key slot can be used for function expansion.

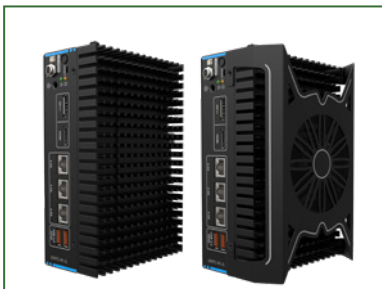
## Structure Solution



IEI Heat Conduction Casing (IHCC)

IEI has developed a highly efficient thermal solution for the 3.5" motherboard - IEI Heat Conduction Casing (IHCC). With its well-design structure, the IHCC can effectively improve heat transfer performance and cut time-to-market.

Completely joint with CPU for better heat transfer in 0°C~60°C operating temperature with the active cooling (PN:CM-WAFER-WF-R10), and in 0°C~45°C operating temperature with the passive cooling (PN:CM-WAFER-WOF-R10).

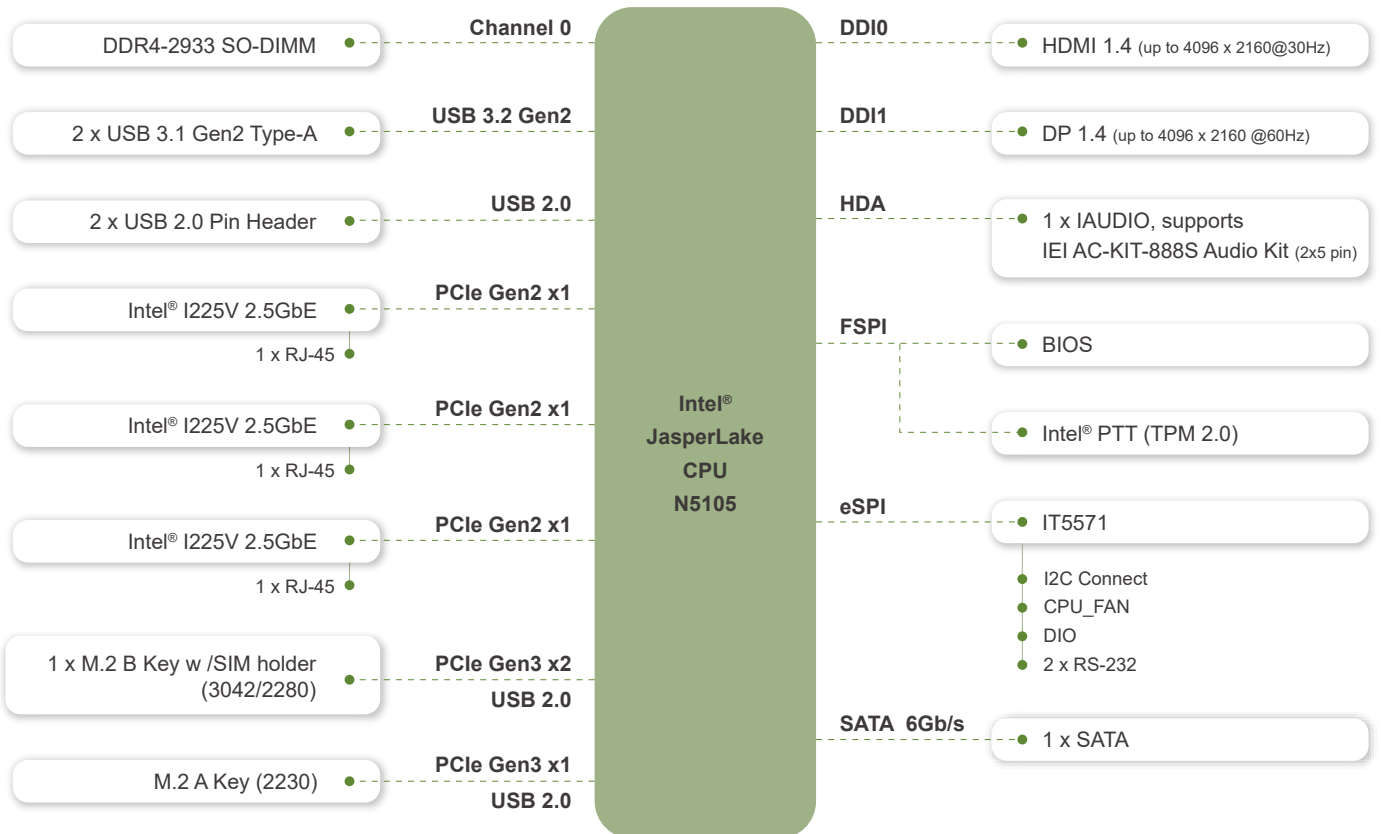


DRPC-W-JL-R10

The DRPC-W-JL-R10 is a compact embedded system and designed for 3.5" single board computers. With the two-dimensional heat conduction and low wind resistance design on the surfaced which means you don't need extra thermal solution to form the heat dissipation part. You can get higher hardness, and benefit from the reduced production cost resulting from shortening manufacturing time. Furthermore, the height of aluminum extrusion can therefore be downsized to make the product light weight.

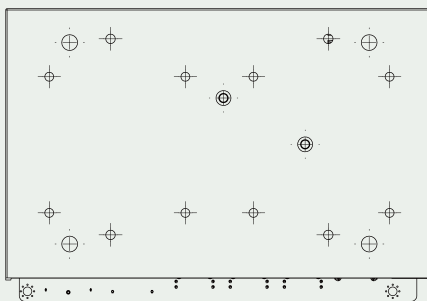
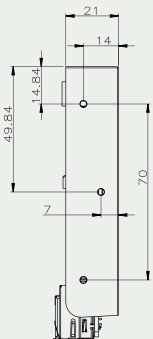
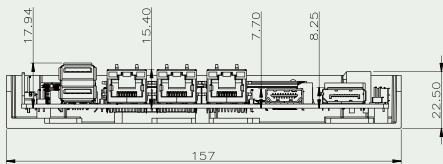
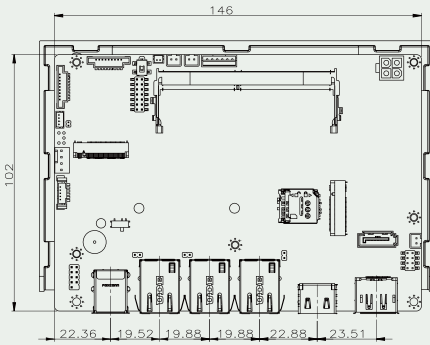
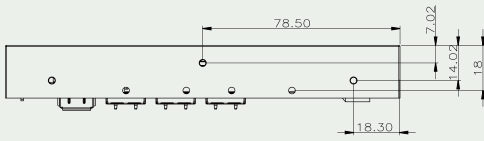


## WAFER-JL-N5105 Block Diagram





### Dimensions



### Specifications

Model	Description
CPU	Intel® Celeron® N5105 on-board SoC (up to 2.90GHz, Quad-core, 4M Cache, TDP=10W)
BIOS	AMI UEFI BIOS
Memory	1 x 260-pin 2933 MHz DDR4 SO-DIMM (system max. 16GB)
Graphics Engine	Intel® Gen11 UHD Graphics
Display Output	Dual independent display 1 x DP 1.4 (up to 4096 x 2160 @60Hz) 1 x HDMI 1.4 (up to 4096 x 2160@30Hz)
Ethernet	3 x Intel® I225V 2.5GbE controller (Colay with I225-LM)
External I/O Interface	2 x USB 3.2 Gen 2
Internal I/O Interface	1 x SATA 6Gb/s 2 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232 (1x9 pin, P=1.25)
SMBus / I <sup>2</sup> C	1 x SMBus (1x4 pin)
Audio	1 x IAUDIO supports IEI AC-KIT-888S Audio Kit (2x5 pin)
Front Panel	1 x Front panel connector Power LED & HDD LED (1x6 pin); power button (1x2 pin); reset button (1x2 pin)
LAN LED	3 x LAN LED (1x2 pin)
Expansions	1 x M.2 2230 A key (PCIe Gen3 x1, USB 2.0) 1 x M.2 3042/2280 B key w/ SIM holder (PCIe Gen3 x2, USB 2.0)
Digital I/O	1 x 12-bit digital I/O (2x7 pin)
TPM	Intel® PTT (TPM 2.0)
Fan Connector	1 x System fan connector (1x4 pin)
Power Supply	12V DC power input (AT/ATX mode)
Watchdog Timer	Software programmable, support 1~255 sec. system reset
Power Consumption	12V@2.45A (Intel® Pentium® Silver N6000 3.30 GHz TDP 6W with one 16GB 2933MHz DDR4 SO-DIMM)
Operating Temperature	0°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing
Dimensions	146mm x 102mm
Weight	GW:850g / NW:350g
Certification	CE/FCC compliant

### Packing List

1 x WAFER-JL single board computer with heatspreader	1 x SATA with power cable kit
1 x Power cable for P4	1 x QIG

### Ordering Information

WAFER-JL-N5105-R10	3.5" SBC supports 10nm 11th Gen. Intel® Celeron® N5105 on-board SoC, dual HDMI, DP, triple 2.5GbE LAN ports, USB 3.2 Gen 2x1, M.2, SATA 6Gb/s, COM, RoHS, 0°C ~ 60°C
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### Optional Accessories

AC-KIT-888S-R10	Realtek ALC888S 7.1 Channel HD Audio peripheral board,RoHS
CB-USB02A-RS	Dual-port USB 2.0 cable, 210mm, P=2.0
32005-003500-200-RS	RS-232/422/485 cable, 2, 250mm, 26AWG, (A) D-SUB 9P MALE+HEXAGONAL screw, (B) MOLEX 51021-0900 P=1.25
CM-WAFER-WF-R10	Cooler Module (W/FAN); Mechanical; for 3.5" WAFER series; RoHS
CM-WAFER-WOF-R10	Cooler Module (W/O FAN); Mechanical; for 3.5" WAFER series; RoHS

