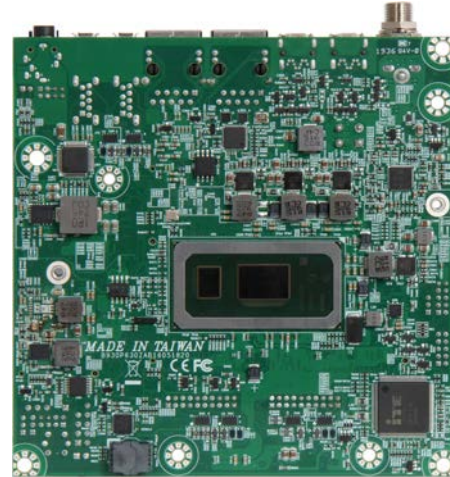
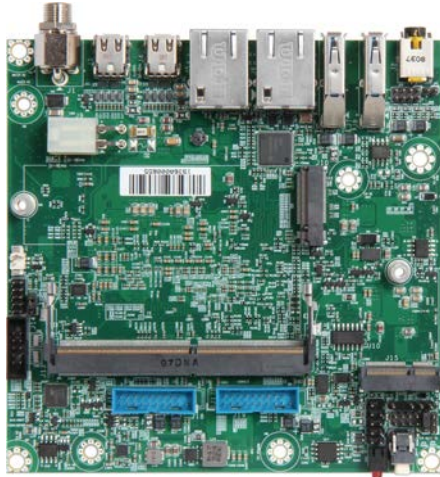


# NANO-6051

Intel® 8<sup>th</sup> Gen Core™ i7/i5/i3 Mobile Processors based on NANO-ITX Board with Mini DP, GbE LAN, USB 3.2, Serial port, M.2 socket and Combo Audio Jack



Portwell's NANO-6051(4.7" x 4.7") is built with Intel® 8<sup>th</sup> Generation Core™ i7/i5/i3 processors and takes advantages of Intel® Core™ technologies such as Hyper-Threading, Turbo Boost, and Intel® HD Graphics to deliver high performance and low power consumption. The 15W TDP processor makes NANO-6051 suitable for fanless systems in various environments

NANO-6051 is an ideal embedded computing platform for automated test equipment, semiconductor equipment, medical equipment, digital signage, robotic control, automatic unmanned vehicle, industrial IoT gateway and transportation applications.

## FEATURES

- Intel® 8<sup>th</sup> Gen Core™ i7/i5/i3 processor (15W TDP)
- DDR4 2400 Non-ECC SO-DIMM, up to 32GB
- Dual mini DP ports, up to 4K resolution
- 1x M.2 Type M 2280, 1x M.2 Type E 2230
- 2x USB 3.2 Gen2, 4x USB 3.2 Gen1, 2x GbE LAN and 1x RS-232/422/485 selectable
- DC 12V input
- On board TPM 2.0

## REAR I/O



## ORDERING GUIDE

NANO-6051-8665UE	Intel® Core™ i7-8665UE 1.7GHz Quad Core.w/DDR4 SO-DIMM/two mini DP/dual GbE LAN/USB/M.2
NANO-6051-8365UE	Intel® Core™ i5-8365UE 1.6GHz Quad Core.w/DDR4 SO-DIMM/two mini DP/dual GbE LAN/USB/M.2
NANO-6051-8145UE	Intel® Core™ i3-8145UE 2.2GHz Dual Core.w/DDR4 SO-DIMM/two mini DP/dual GbE LAN/USB/M.2

## GENERAL

Processor	- Intel® 8 <sup>th</sup> Gen Core™ i7/i5/i3 processor (15W TDP) - With 4MB Cache - Supports Intel® Hyper-Threading Technology, Virtualization Technology (VT-x), Small Business Advantage
BIOS	AMI uEFI BIOS
Memory	DDR4 2400 MHz Non-ECC SO-DIMM up to 32GB
Watchdog Timer	Programmable by embedded controller
Hardware Monitoring	- Temperature (CPU & System) - Voltage (CPU Vcore, 12V, 5V, 3.3V, RAM)

## I/O INTERFACE

Expansion Interface	- 1x M.2 Type M 2280 socket - 1x M.2 Type E 2230 socket
Audio	- HDA controller integrated in Intel® SoC - Realtek ALC888S HDA codec, Audio Combo Jack on rear I/O with Line-out/Mic-in and on board pin header with Line-in, Line-out, Mic-in
Ethernet	- Intel® I210AT and Intel® I219LM Ethernet Controller - 2x RJ-45 connectors on rear I/O
Serial Port	1x RS-232/422/485 on board connector (Selectable by BIOS)
USB	- 2x USB 3.2(Gen2) ports on rear I/O - 4x USB 3.2(Gen1) ports on board
GPIO	8-bit configurable controlled by embedded controller

## DISPLAY

Graphic Controller	- Intel® HD Graphics 5500/6000 support DirectX 11.2, OpenGL 4.3 / OpenCL 2.0 - Video decode HW acceleration support for H.264/AVC, VC-1, MPEG2, VP8
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## Mechanical & Environment

Display Interface	2x Mini DP on Rear I/O, up to 4096x2304 resolution
Dimension	120mm(L) x 120mm(W); 4.72"(L) x 4.72"(W)
Power Supply	DC 12V input
Environment	- Operation Temperature: 0°C to 60°C - Storage Temperature: -40°C to 85°C - Relative Humidity: 5% to 95%, non-condensing

