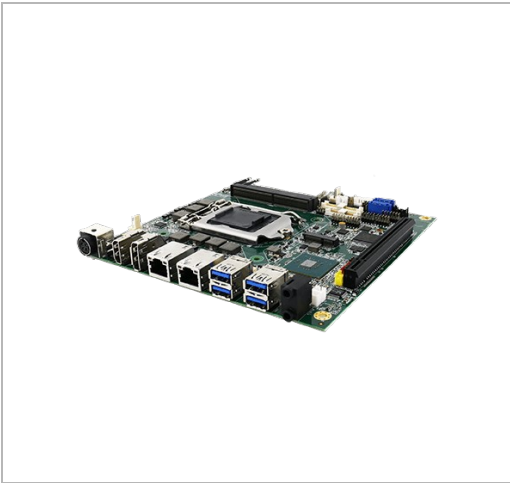


# IF70

## Intel® Core™ i7/i5/i3 Mini-ITX Embedded Board



### KEY FEATURES

- Socket LGA1151 for Intel® Core™ i7 / i5 / i3 Processor
- Mini ITX Form Factor ( 170 x 170 mm )
- DDR4 2666 MHz SO-DIMM support up to 32 GB
- 12 V Single Voltage Power Input
- Multi display supports DP / HDMI (Optional) / LVDS / eDP panel interface
- Optional PCIE 3.0 x 16 slot



### SPECIFICATIONS

#### System Specification

<b>Processor</b>	Intel® Core™ i7-9700TE (12M Cache, up to 3.80 GHz) Intel® Core™ i5-9500TE (9M Cache, up to 3.60 GHz) Intel® Core™ i3-9100TE (6M Cache, up to 3.20 GHz)	<b>Chipset</b>	Intel® Q370
<b>Memory</b>	1 x SO-DIMM, DDR4 2400 MHz, 4GB 8GB (Optional) 16GB (Optional) 32GB (Optional) 2 x SO-DIMM, up to 64GB (Optional)	<b>Storage</b>	1 x M.2 2242 B-key SSD 64GB M.2 2242 B-key SSD up to 512GB (Optional) M.2 2280 M-Key NVMe SSD, up to 4TB (Optional) 2 x SATA III support RAID 0,1 (Optional)
<b>Ethernet controller</b>	Intel® Ethernet Controller I211-AT + Intel® Ethernet Connection I219-LM	<b>Security</b>	TPM 2.0
<b>Operating System</b>	Windows 10 IoT Enterprise (Optional) Linux Ubuntu 18.04 (Optional)		

#### IO Ports

<b>Power Input</b>	1 x 12V DC, Din4 pin connector	<b>USB Port</b>	4 x USB3.2 Gen.1 (Type-A)
<b>Video</b>	1 x DP1.2 1 x HDMI 1.4 (Optional)	<b>Audio</b>	Mic in Line out
<b>Expansion Port</b>	1 x M.2 2242/2280 Key M slot for SATA/NVMe SSD 1 x M.2 2230 Key E slot for WiFi (Optional)	<b>LAN</b>	2 x Giga LAN RJ45 Connector

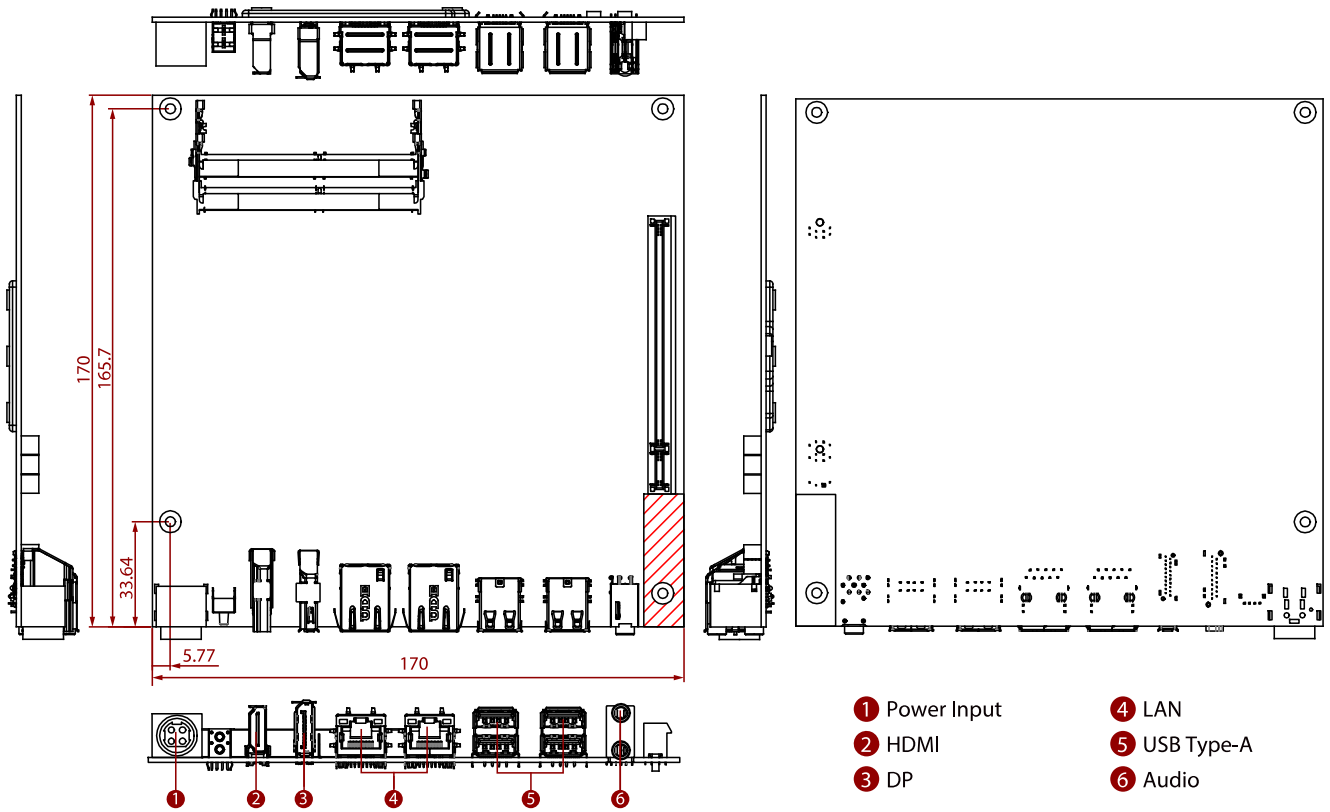
#### Internal IO Ports

<b>Power input</b>	1 x 4pin(2x2) for 12V DC in 1 x 6pin(1x6) for 12V DC in	<b>Power output</b>	2 x 2pin(1x2) red wafer for 5V DC out 1 x 2pin(1x2) yellow wafer for 12V DC out
<b>USB</b>	2 x 8pin(2x4) for 4 x USB 3.2 Gen.1 2 x 8pin(2x4) for 2 x USB2.0	<b>Serial port</b>	2 x 10pin(2x5) for RS232 2 x 10pin(2x5) for RS232/422/485
<b>Display</b>	1 x 40pin DF13 connector for LVDS 1 x 30pin DF13 connector for eDP (Optional)	<b>Backlight</b>	1 x 7pin(1x7) for panel backlight
<b>SATA</b>	2 x SATA III 1 x 8pin(2x4) for SATA power	<b>DIDO</b>	1 x 14pin(2x7) for Digital input/output
<b>VR</b>	1 x 3pin(1x3) for Digital panel backlight brightness control 1 x 3pin(1x3) VR/Software brightness switch jumper 1 x 3pin(1x3) PWM/DC brightness switch jumper 1 x 3pin(1x3) 3.3V/5V PWM Level switch jumper	<b>Fan</b>	1 x 3pin(1x3) for CPU Fan 1 x 3pin(1x3) for System Fan
<b>OSD</b>	1 x 10pin(2x5) for OSD control	<b>Speaker</b>	2 x 2pin(1x2) for Speaker

<b>Backup battery</b>	1 x RTC battery holder	<b>BIOS debug</b>	1 x 10pin(2x5) for LPC debug
<b>Certification</b>			
<b>Certification</b>	CE, FCC		
<b>Mechanical</b>			
<b>Dimension</b>	170 x 170 mm		
<b>Environment</b>			
<b>Operating Humidity</b>	60 °C @ 95% RH, (non-condensing)	<b>Operating Temperature</b>	0~60°C
<b>Storage Temperature</b>	-40~70°C		
<b>Accessory</b>			
<b>Accessory</b>	Manual & Driver CD		

## DIMENSIONS UNIT:MM

### Winmate Embedded Board IF70



## NOTE

1. This is a simplified drawing and some components are not marked in detail.
2. Please contact our sales representative if you need further product information.
3. All specifications are subject to change without prior notice.
4. The product shown in this datasheet is a standard model. For diagrams that contain customized or optional I/O, please contact the Winmate Sales Team for more information.