

# IMB521R

ATX Motherboard with LGA1151 Socket 9th/8th Gen Intel® Core™ i7/i5/i3, Xeon® E Processor, Intel® C246, ECC DDR4, USB 3.2 Gen1/Gen2, SATA 3.0, Dual LAN, VGA, DisplayPort++, DVI-D, and HDMI

## Features

- LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3, Xeon® E, Pentium® or Celeron® processor (Coffee Lake Refresh)
- Four 288-pin DDR4-2666/2400 ECC DIMM for up to 128GB of memory
- DisplayPort++, VGA, DVI-D and HDMI with triple-view supported
- 4 SATA-600 with RAID 0/1/5/10
- 2 USB 3.1 Gen2 and four USB 3.1 Gen1
- TPM 2.0 supported (optional)



## Core System

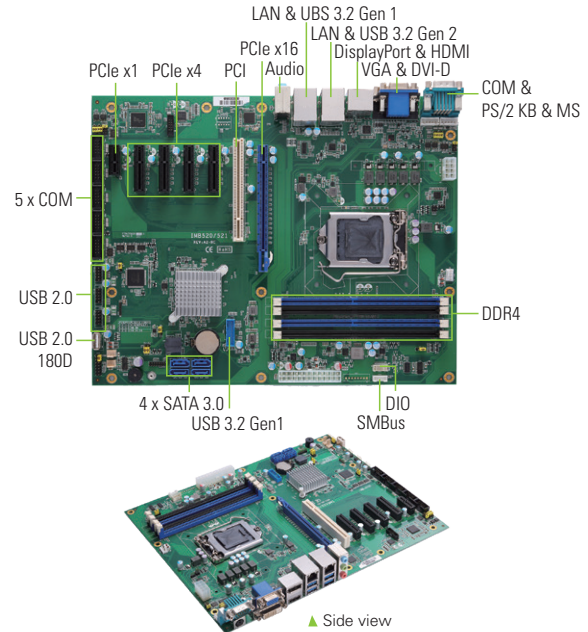
CPU	LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3, Xeon® E, Pentium® or Celeron® processor (up to 95W)
System Memory	4 x 288-pin DDR4-2666/2400 ECC DIMM, up to 128GB (Intel® Core™ i7/i5 only support non-ECC)
Chipset	Intel® C246
BIOS	AMI BIOS
Watchdog Timer	255 levels, 1 to 255 sec.
Expansion Interface	1 x PCIe x16 slot 4 x PCIe x4 slot 1 x PCIe x1 slot 1 x PCI
Battery	Lithium 3 V/ 220 mAh
Dimensions	305 x 244 mm
Board Thickness	1.6 mm
Operating Temperature	0°C to +60°C (+32°F to +140°F)
Humidity	10% to 95% relative humidity, non-condensing

## I/O

SATA	4 x SATA-600 with RAID 0/1/5/10
Hardware Monitoring	Detect CPU/system temperature, voltage and supports smart fan control
Ethernet	1 x 10/100/1000 Mbps Ethernet with Intel® I219-LM; supports Wake-on-LAN, PXE Boot ROM, iAMT 1 x 10/100/1000 Mbps Ethernet with Intel® I210-AT; supports Wake-on-LAN, PXE Boot ROM
Audio	HD Codec audio as MIC-in/Line-in/Line-out with Realtek ALC888
USB	2 x USB 3.2 Gen2x1 (10Gbps) (rear I/O) 4 x USB 3.1 Gen1 (rear I/O, internal box header) 7 x USB 2.0 (pin header, 180D type A)
Serial	4 x RS-232 (Internal box header) 2 x RS-232/422/485 (COM 1: rear, COM 2: internal box header)
PS/2 Combo Port	1 x PS/2 keyboard and mouse
TPM	TPM 2.0 (optional)
SMBus	Yes
Digital I/O	8-channel programmable

## Display

Graphic	Intel® HD Graphic
Memory Size	Share system memory
Display Interface	1 x VGA 1 x DVI-D 1 x HDMI 1 x DisplayPort++



## Ordering Information

### Standard

IMB521R (P/N: E38F521103)	ATX motherboard with LGA1151 socket 9th/8th gen Intel® Core™ i7/i5/i3, Xeon® E, Pentium® or Celeron® processor, Intel® C246, USB 3.2 Gen2x1 (10Gbps), SATA 3.0, 2 GbE LAN, VGA, DisplayPort++, DVI-D, and HDMI
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### Optional

5938A808010E	2 x USB 2.0 cable with bracket, P=2.54 mm, L=190 mm
5938A808020E	2 x USB 2.0 cable with bracket, P=2.54 mm, L=400 mm
5948C122800E	2 x USB 3.2 Gen1 cable with bracket, L=400 mm
59380000290E	PS/2 keyboard & mouse cable with bracket
593826A0000E	SATA signal cable/red, L=500 mm
59384500100E	Audio cable with bracket, P=2.0 mm, L=450 mm
59380402010E	1 x COM port cable with bracket, P=2.54 mm, L=300 mm
59380703000E	2 x COM port cable with bracket, P=2.54 mm, L=300 mm
83935151000E	TPM 2.0 module (AX93515)
5076E510000E	CPU heatsink for 1U chassis (AX61135TM)
50761222000E	CPU cooler for 2U, 4U, and wall mount chassis

## Processor List

CPU	Speed	Cache	Cores	TDP
Intel® Core™ i9-9900K Processor	3.6 GHz	16 MB	8	95 W
Intel® Core™ i7-9700TE Processor	1.8 GHz	12 MB	8	35 W
Intel® Core™ i7-8700K Processor	3.7 GHz	12 MB	6	95 W
Intel® Core™ i7-8700 Processor	3.2 GHz	12 MB	6	65 W
Intel® Core™ i7-8700T Processor	2.4 GHz	12 MB	6	65 W
Intel® Core™ i5-9500E Processor	3.0 GHz	9 MB	6	65 W
Intel® Core™ i5-9400 Processor	2.9 GHz	9 MB	6	65 W
Intel® Core™ i5-9500TE Processor	2.2 GHz	9 MB	6	35 W
Intel® Core™ i5-8400 Processor	2.8 GHz	9 MB	6	65 W
Intel® Core™ i5-8400T Processor	2.1 GHz	9 MB	6	35 W
Intel® Core™ i3-9100 Processor	3.6 GHz	6 MB	4	65 W
Intel® Core™ i3-9100E Processor	3.1 GHz	6 MB	4	65 W
Intel® Core™ i3-9100TE Processor	2.2 GHz	6 MB	4	35 W
Intel® Core™ i3-8100 Processor	3.6 GHz	6 MB	4	65 W
Intel® Core™ i3-8100T Processor	3.1 GHz	6 MB	4	35 W
Intel® Xeon® E-2176G Processor	3.7 GHz	12 MB	6	80 W
Intel® Xeon® E-2278GE Processor	3.3 GHz	16 MB	8	80 W
Intel® Pentium® Gold G5400T Processor	3.1 GHz	4 MB	2	35 W
Intel® Celeron® G4900T Processor	2.9 GHz	2 MB	2	35 W