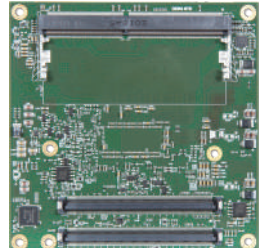
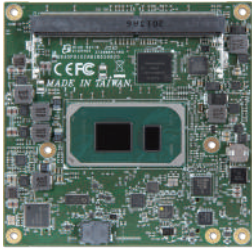


PCOM-B656VGL

Intel® Tiger Lake-UP3 Core™ Processor based on Type VI COM Express module with dual DDR4 SO-DIMM, DDI, eDP, Gigabit Ethernet, SATA 3.0, and USB 3.2



FEATURES

- Intel® Core™ i3/i5/i7/Celeron Processors 10nm process(Tiger Lake UP3)
- Support 2xDDR4-3200 Non-ECC SO-DIMMs, up to 32G per DIMM
- Support USB2.0/3.2, 2x SATAIII, 1x PCIe4.0 x4 and 5x PCIe 3.0 LANES
- Support Display Port, HDMI, VGA, and LVDS/eDP



Portwell PCOM-B656VGL is designed with Intel® Tiger Lake-UP3 processor with Type 6 pin definition. It brings three important factors including DDR4 memory, PCIe Gen4, and USB 3.2 Gen2 x1 support. Extend PCIe Gen3 ports in PCOM-B656VGL can support high speed I/O card for more applications. In the meantime, it's compatible with COMe 3.0 Type 6 carrier board.

General

| General | | | | |
|--------------------------------|--|--------------------------|--------------------------|---------------------|
| Product | PCOM-B656VGL | | | |
| Form Factor | Type 6, Compact Size Form Factor Express® (95 X 95mm) | | | |
| Processor | Intel® Core™ | | | Intel® Celeron® |
| | i7-1185G7E i7-1185GRE | i5-1145G7E i5-1145GRE | i3-1115G4E i3-1115GRE | 6305E |
| Core | 4 | 4 | 2 | 2 |
| Base Freq. @ TDP/cTDP | 2.8/1.8/1.2 GHz | 2.6/1.5/1.1 GHz | 3.0/2.2/1.7 GHz | 1.80 GHz |
| Turbo | 4.4 GHz | 4.1 GHz | 3.9 GHz | N/A |
| Cache | 12MB | 8MB | 6MB | 4MB |
| Processor Graphics | Intel® Iris® Xe Graphics | Intel® Iris® Xe Graphics | Intel® Iris® Xe Graphics | Intel® UHD Graphics |
| Graphics Max Dynamic Frequency | 1.35 GHz | 1.30 GHz | 1.25 GHz | 1.25 GHz |
| HW Encoding | VP9 8/10 bit, H.265/HEVC 8/10 bit, H.264/AVC, MPEG2 | | | |
| HW Decoding | AV1, VP9 8/10/12 bit, H.265/HEVC 8/10/12 bit, H.264/AVC, MPEG2 | | | |
| Processor TDP/cTDP | 28/15/12W | 28/15/12W | 28/15/12W | 15W |
| BIOS | AMI BIOS | | | |
| ECC Memory Supported | NO | | | |
| Memory | 2x SO-DIMM DDR4 up to 32GB 3200MHz per DIMM | | | |

I/O Interface

| | | | |
|-------------------------|--|------------------------|-------------------------------|
| SATA | 2 x SATA III (Port 0~1) | | |
| USB | 4x USB 3.2 Gen2 (Port 1~4) 8x USB 2.0 (Port 0~7) | | |
| Ethernet | Intel® i225IT | | |
| Serial I/O | GPIO | 4x GPI & 4x GPO | |
| | I ² C | Baud Rate : 400KHz | |
| | SMBus | Baud Rate : 100KHz | |
| | UART | Only RX/TX signal | |
| PEG | 1x PCIe Gen4 x4 | | |
| PCI Express | 1x PCIe Gen3 x4 / 2x PCIe Gen3 x2 / 4x PCIe Gen3 x1 / 1x PCIe Gen3 x2 + 2x PCIe Gen3 x1 (Port 0~3) | | |
| | 1x PCIe Gen3 x1 (Port 4) with I225 LAN 1x PCIe Gen3 x2 / 2x PCIe Gen3 x1 (Port 6,7) w/o USB 3.2 | | |
| Display | Default | Options | Resolution |
| | DDI1 | DP1.4 | Up to 5120x3200 @ 60Hz 24 bpp |
| | | HDMI | Up to 4096x2304 @ 60Hz 24 bpp |
| | DDI2 | DP1.4 | Up to 5120x3200 @ 60Hz 24 bpp |
| | | HDMI | Up to 4096x2304 @ 60Hz 24 bpp |
| | LVDS | eDP | Up to 4096x2304 @ 60Hz 24 bpp |
| 24bit dual channel LVDS | | Up to 1920x1200 @ 60Hz | |
| VGA | VGA | Up to 1920x1200 @ 60Hz | |
| Security | TPM 2.0(Infinion SLB9670), Intel® AES | | |

PCOM-B656VGL

MECHANICAL & ENVIRONMENT

| | |
|-----------------------|--|
| Dimension | 95 x 95mm |
| Power DC IN | Normal: +12V DC, +5VSB DC AT/ATX mode |
| Storage Temperature | -40°C to 85°C |
| Operating Temperature | 0°C to 60°C -40°C to 85°C (Selection Model) |
| Certification | Contact us |
| MTBF | Over 100,000 hours at 40°C |
| Vibration | Contact us |
| OS | Windows 10 Red Hat, Ubuntu, CentOS |

ORDERING GUIDE

| Product | Ordering P/N | Status |
|----------------------------------|--------------|------------|
| PCOM-B656VGL-1185G7E | AB1-3L45 | Contact us |
| PCOM-B656VGL-1185GRE | AB1-3L28 | Contact us |
| PCOM-B656VGL-1145G7E | AB1-3L47 | Contact us |
| PCOM-B656VGL-1145GRE | AB1-3L48 | Contact us |
| PCOM-B656VGL-1115G4E | AB1-3L49 | Contact us |
| PCOM-B656VGL-1115GRE | AB1-3L46 | Contact us |
| PCOM-B656VGL-6305E | AB1-3L50 | Contact us |
| Accessory | Ordering P/N | Status |
| PCOM-C60B (ATX Carrier Board) | AB1-3G22Z | Contact us |
| Cooler | B9971920 | Contact us |

BLOCK DIAGRAM

PCOM-B656VGL

COM Express® Type 6 Compact Module 95x95mm AT / ATX Mode +12VDC, +5VSB -40°C ~ +85°C
For Selection model

