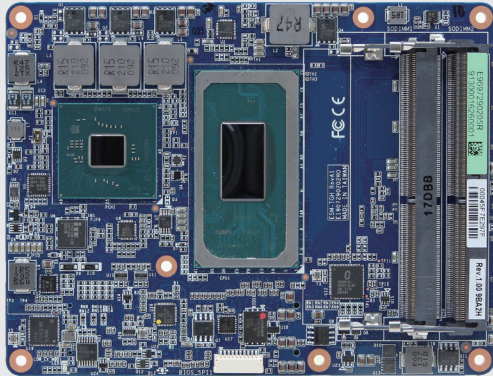




Features

- PICMG COM R3.0 Type 6 Module with Intel® 11th Generation Xeon®, Core™ i7/i5/i3, Celeron® BGA Processor
- 3 x 260-Pin DDR4 3200MHz SO-DIMM Slot Up to 32 GByte Each (96 GByte Total)
- 1 x Intel® I225LM/IT
- Intel® HD Audio Integrated on CPU
- Onboard TPM 2.0 Optional
- COMe Type 6 Basic Size: 3.74" x 4.92" (125*95 mm)
- DC in +9V ~ +19V



DDR4
SO-DIMM



USB 3.2



4 Display,
up to 2K

Specifications

System Information

Processor	11th Gen. Intel® Xeon® Core™ and Celeron® Processor Xeon® W-11865MRE* 45W (35W cTDP), 8C/16T (ECC) Xeon® W-11155MRE* 45W (35W cTDP), 4C/8T (ECC) Core™ i7-11850HE* 45W (35W cTDP), 8C/16T (Non-ECC) Core™ i5-11500HE* 45W (35W cTDP), 6C/12T (Non-ECC) Core™ i3-11100HE* 45W (35W cTDP), 4C/8T (Non-ECC) Celeron® 6600HE* 35W, 2C/2T (Non-ECC)
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Platform Controller Hub	Intel® RM590E Chipset Intel® QM580E Chipset Intel® HM570E Chipset
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System Memory	3 x 260-Pin DDR4 3200MHz SO-DIMM Slot Up to 32 GByte Each (96 GByte Total)
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I/O Chipset	EC iTE IT5571
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Watchdog Timer	H/W Reset, 1Sec. ~ 65535Sec. and 1Sec./Step
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BIOS	AMI uEFI BIOS, 256 Mbit SPI Flash ROM
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H/W Status Monitor	Monitoring System Temperature Voltage and FAN Status with Auto Throttling Control
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TPM	Onboard TPM 2.0 Optional
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Expansion

Expansion	1 x PCIe x16 (Gen4) 8 x PCIe x1 (Gen3)
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Display

Graphic Chipset	Intel® UHD Graphics (Xe Architecture)
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Spec. & Resolution	HDMI 2.0b: 4096x 2304@60Hz DP 1.4: 4096x 2304@60Hz LVDS: 1920x 1080@60Hz, Support Dual Channel 18/24-bit LVDS (Via eDP-to-LVDS IC CH7511B) VGA: 1920x 1200@60Hz (Via DP to VGA IC Chronitel® 7517A) eDP 1.4b: 4096x 2304@60Hz (Optional), (Per Intel Design Guide, Need to Add Redriver (Redriver in Carrier Board to Fine Tune the Signal of DDI 4)) (Only Support 4Lanes 2560x1440 & 2Lanes 1920x1080)
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Multiple Display	Four Display Support, Up to 2K (3DDI+eDP)
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LVDS	CH7511B (eDP to LVDS)
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DDI	3 x DDI, VGA, eDP/LVDS (BOM Optional) HDMI/DP (Default)
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VGA Supported by Build Option Via DP-to-VGA IC (In Place of DDI 3)

Audio

Audio Interface	Intel® HD Audio Integrated on CPU
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Ethernet

LAN Chipset	1 x Intel® I225LM/IT
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Ethernet Interface	10/100/1000/2500 Base-Tx GbE Compatible
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Software Support

OS	Windows 10 64-bit Linux (Kernel 5.8) above
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Certification

Certification Information	CE, FCC Class, RoHS Compliant
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I/O

USB	4 x USB 3.2 Gen.2 x 1 8 x USB 2.0
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COM Port	2 x UART (RX/TX Only)
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SATA	4 x SATA III
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DIO	1 x 8-bit GPIO
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MIO	1 x SMBus 1 x LPC (Via eSPI to LPC Bridge) 1 x I2C
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Mechanical & Environmental

Operating Temp.	Standard 0°C ~ 60°C (32°F ~ 140°F) Operating Industrial (Build Option with Selected SKUs): -40°C ~ 75°C (-40°F ~ 167°F)
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Storage Temp.	-40°C ~ 85°C (-40°F ~ 185°F)
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Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
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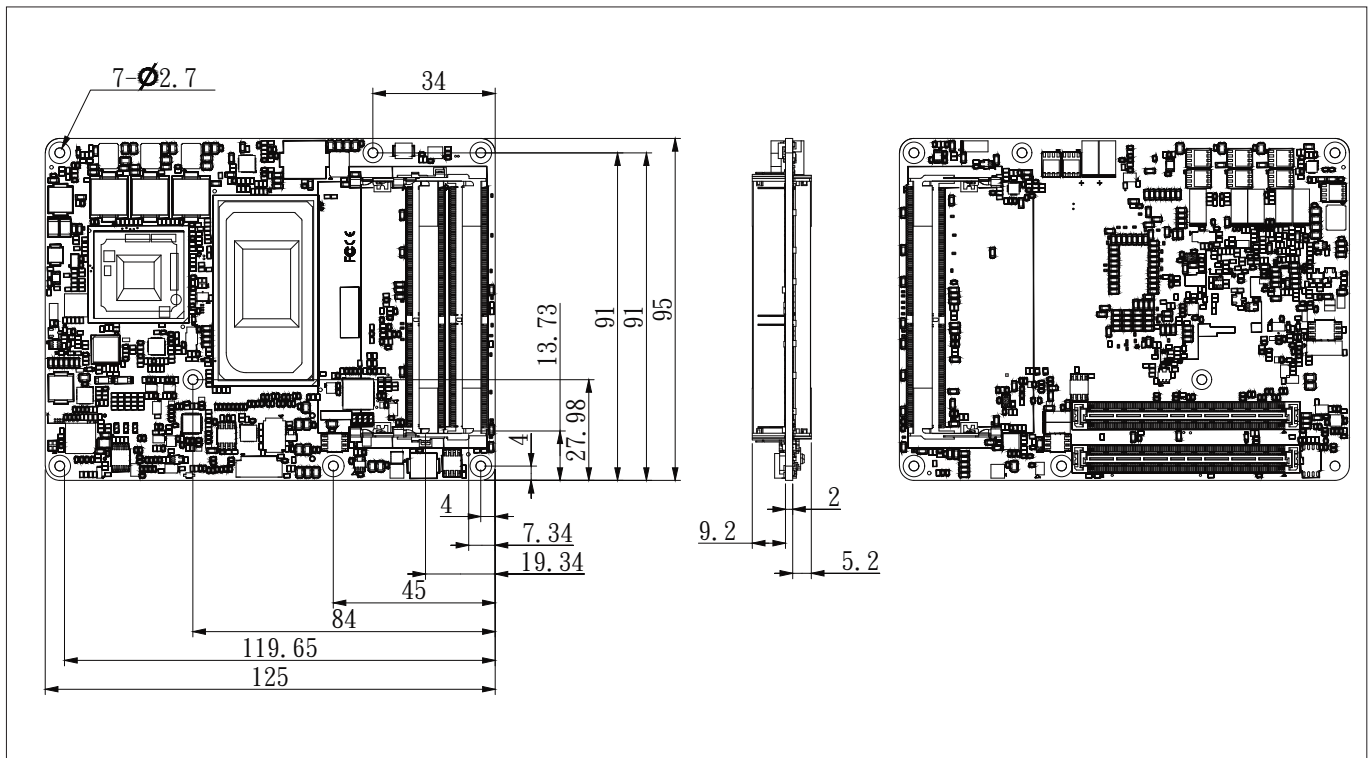
Weight	0.44lbs (0.2Kg)
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Power Requirement	+9V ~ +19V
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Power Mode	AT/ATX
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Dimension (L x W)	3.74" x 4.92" (125*95 mm)
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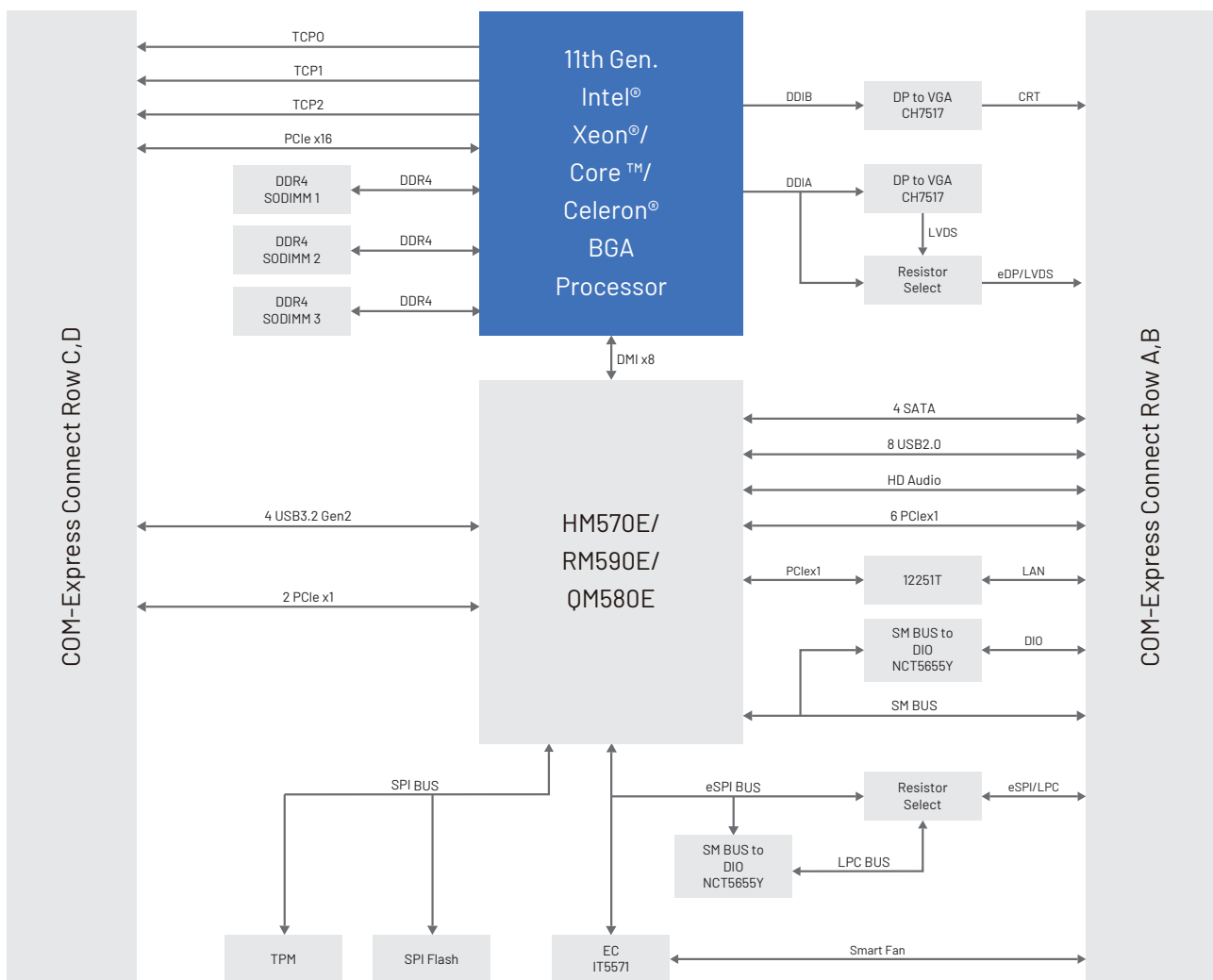
Mechanical Drawing



Ordering Information

P/N	CPU	PCH	LVDS/eDP	TPM	Memory	Storage	Operating Temp.	Thermal Solution
ESM-TGH-1850-A1R	Intel® Core™ i7-11850HE Processor	HM570E	LVDS	Onboard TPM 2.0 (optional)	3	NA	0°C ~ 60°C (32°F ~ 140°F)	ACC-ESMTGH-CL-1R W/FAN H=56mm
ESM-TGH-1500-A1R	Intel® Core™ i5-11500HE Processor	HM570E	LVDS	Onboard TPM 2.0 (optional)	3	NA	0°C ~ 60°C (32°F ~ 140°F)	ACC-ESMTGH-CL-1R W/FAN H=56mm
ESM-TGH-1100-A1R	Intel® Core™ i3-11100HE Processor	HM570E	LVDS	Onboard TPM 2.0 (optional)	3	NA	0°C ~ 60°C (32°F ~ 140°F)	ACC-ESMTGH-CL-1R W/FAN H=56mm
ESM-TGH-6600-A1R	Intel® Celeron 6600HE Processor	HM570E	LVDS	Onboard TPM 2.0 (optional)	3	NA	0°C ~ 60°C (32°F ~ 140°F)	ACC-ESMTGH-CL-1R W/FAN H=56mm
ESM-TGH-1850-A1-1R	Intel® Core™ i7-11850HE Processor	QM580E	LVDS	Onboard TPM 2.0 (optional)	3	NA	0°C ~ 60°C (32°F ~ 140°F)	ACC-ESMTGH-CL-1R W/FAN H=56mm
ESM-TGH-1500-A1-1R	Intel® Core™ i5-11500HE Processor	QM580E	LVDS	Onboard TPM 2.0 (optional)	3	NA	0°C ~ 60°C (32°F ~ 140°F)	ACC-ESMTGH-CL-1R W/FAN H=56mm
ESM-TGH-1865R-A1R	Intel® Xeon W-11865MRE Processor	RM590E	LVDS	Onboard TPM 2.0 (optional)	3	NA	-40°C ~ 75°C (-40°F ~ 167°F)	ACC-ESMTGH-CL-2R W/FAN H=68.5mm
ESM-TGH-1155R-A1R	Intel® Xeon W-11155MRE Processor	RM590E	LVDS	Onboard TPM 2.0 (optional)	3	NA	-40°C ~ 75°C (-40°F ~ 167°F)	ACC-ESMTGH-CL-2R W/FAN H=68.5mm

Block Diagram



I/O Overview

