



## ESM-TGH

**PICMG COM R3.0 Type 6 module with Intel® 11th Generation Xeon®, Core™ i7/i5/i3, Celeron® BGA Processors**

- > PICMG COM R3.0 Type 6 module with Intel® 11th Generation Xeon®, Core™ i7/i5/i3, Celeron® BGA 10nm Processors
- Up to 3x 260-pin DDR4 3200 SO-DIMM with up to 96 GByte
- Gen 12 Intel® UHD Graphics (Xe architecture), media, and display with up to 32EU
- Flexible I/O support with 4 SATA3.0 (6.0GB/s), 4 USB3.2 Gen.2x1(10Gbp/s), 8 USB 2.0, 8-bit GPIO, 1 Gen4 PEGx16, 8-PClex1
- 1 x 2.5GbE Ethernet via Intel® I225LM/IT
- 9V~19V Wide Range Voltage Input
- TPM 2.0

### + Spec

-System Information-	
<b>Processor</b>	Mobile 11th Generation Intel® Xeon® Core™ and Celeron® Processors - 10nm 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)
<b>Platform Controller Hub</b>	RM590E QM580E HM570E
<b>System Memory</b>	Up to 3x 260-pin DDR4-3200 SO-DIMM slot up to 32 GByte each (96 GByte total)
<b>I/O Chipset</b>	EC (ITE IT5571)
<b>BIOS Information</b>	AMI uEFI BIOS, 256 Mbit SPI Flash ROM
<b>Watchdog Timer</b>	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
<b>H/W Status Monitor</b>	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
<b>TPM</b>	TPM2.0
I/O	
<b>USB Port</b>	4 x USB 3.2 Gen.2x1 (10 Gbps) 8 x USB 2.0
<b>SATA</b>	4 x SATA3.0 (6.0Gb/s)
<b>DIO</b>	8bit GPIO(NCT5655Y)
<b>MIO</b>	4 x SATAIII 6.0Gb/s 1xLPC (via eSPI to LPC bridge), I2C, SMBus, 2 x UART(2-wire)
<b>HDMI</b>	HDMI 2.0b
Display	
<b>Graphic Chipset</b>	Gen 12 Intel® UHD Graphics (Xe architecture)
<b>Spec. &amp; Resolution</b>	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 DP1.4) (Only support 4Lanes 2560x1440 & 2Lanes 1920x1080)
<b>Multiple Display</b>	Supporting 4 display up to 2K (3DD+eDP)
<b>DDI</b>	HDMI/DP (default)
<b>Interface</b>	Dual-channel 18/24-bit LVDS (LVDS via CH7511B)
Software Support	
<b>OS</b>	Microsoft® Windows 10 64-bit Linux (Kernel>5.8)
Ethernet	
<b>LAN Chipset</b>	Intel®i225LM/IT
<b>Ethernet Interface</b>	10/100/1000/2500 Base-Tx GbE compatible
Mechanical & Environmental	
<b>Operating Temperature</b>	Operating Standard: 0 ~ 60 °C (32 ~ 140 °F) Operating Industrial (build option with selected SKUs): -40°C ~ 75°C (-40°F ~ 167°F)
<b>Storage Temperature</b>	-40°C ~ 85°C (-40°F ~ 185°F)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Weight</b>	0.44lbs (0.2kg)
<b>Power Requirement</b>	+9~ +19V
<b>ACPI</b>	Single power ATX Support S0, S4, S5 ACPI 5.0a Compliant
<b>Power Mode</b>	AT/ATX



