

# TQMx60EB

x86 Family



**COM Express® Basic Type 6 Module with Intel® Core™ (6th Generation) 6000E series („Skylake-H”).**

Based on

**COM Express**

**intel** Technology  
Provider  
Platinum 2018

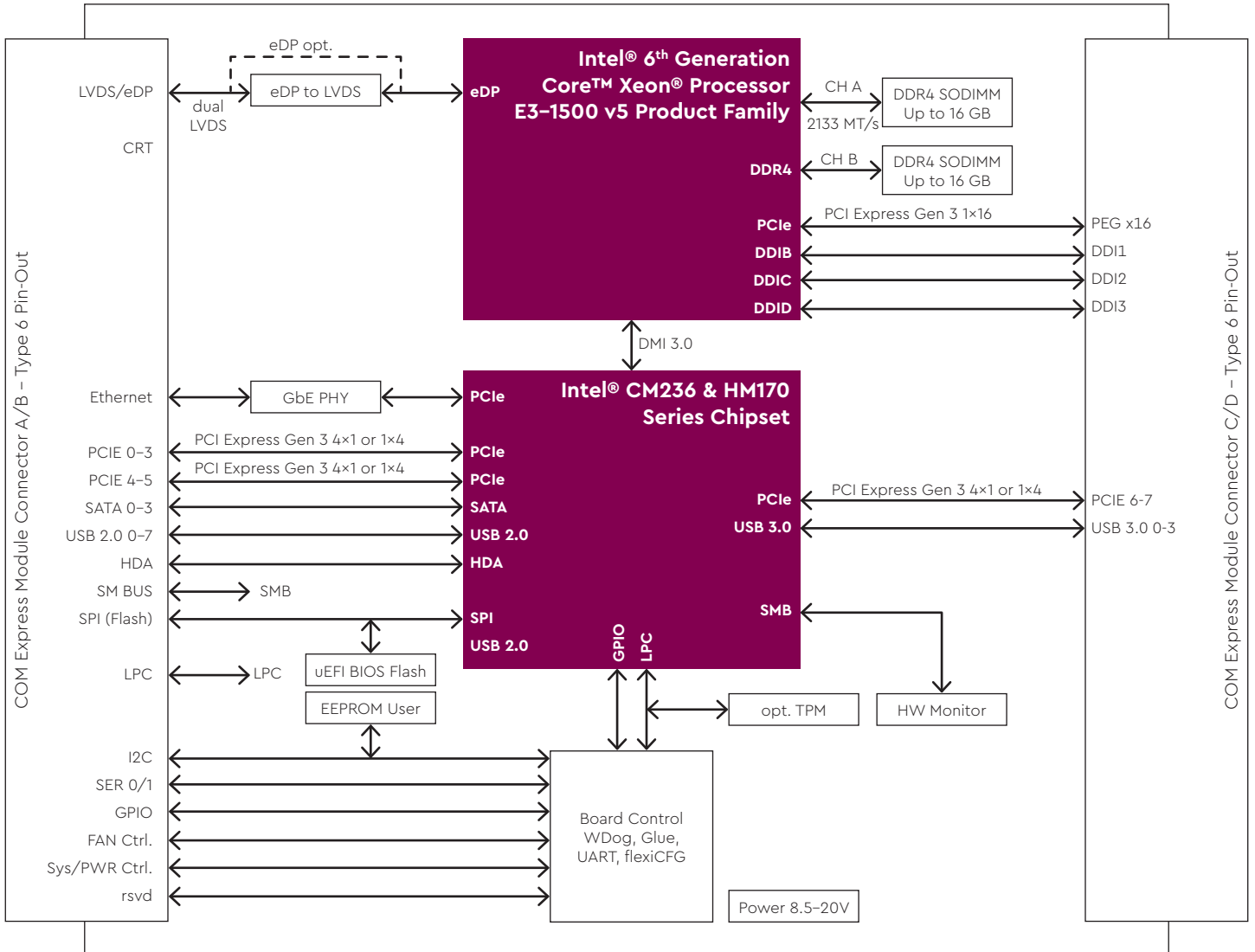
## HIGHLIGHTS

- ▶ High end performance up to Quad-Core 3.7 GHz/ 8 MB cache
- ▶ Impressive graphics performance (Intel® Iris™ Pro)
- ▶ Best in class power optimization
- ▶ Up to 32 GB Dual-Channel DDR4 (2 SO-DIMMs), ECC
- ▶ High bandwidth with up to 24 PCIe Gen. 3 lanes (incl. PCIe x16 PEG port)
- ▶ TQMx86 board controller with flexible customization-options (flexiCFG)
- ▶ Mobile Intel® 100 series chipset (CM236)
- ▶ TPM 1.2/2.0
- ▶ "Green ECO-Off" (minimum of standby power)
- ▶ Watchdog und thermal management
- ▶ Highest reliability, 24/7 certified
- ▶ Quality Made-in-Germany

## TECHNICAL SPECIFICATION

<b>CPU</b>	Intel® Xeon® E3-1500 v5 series („Skylake-H") Xeon E3-1505M v5 (4x 2.8/3.7 GHz, 8 MB, GT2, 45/35 W) Xeon E3-1505L v5 (4x 2.0/2.8 GHz, 8 MB, GT2, 25 W) Intel® Core™ 6000E series („Skylake-H") Core i7-6820EQ (4x 2.8/3.5 GHz, 8 MB, GT2, 45/35 W) Core i7-6822EQ (4x 2.0/2.8 GHz, 8 MB, GT2, 25 W) Core i5-6440EQ (4x 2.7/3.4 GHz, 6 MB, GT2, 45/35 W) Core i5-6442EQ (4x 1.9/2.7 GHz, 6 MB, GT2, 25 W) Core i3-6100E (2x 2.7 GHz, 3 MB, GT2, 35 W) Core i3-6102E (2x 1.9 GHz, 3 MB, GT2, 25 W)	<b>Interfaces</b>	1x Gbit Ethernet (Intel® i219-LM) 4x USB 3.0 (with USB 2.0 backward compatibility) 8x USB 2.0 (incl. USB 3.0 ports) 4x SATA Gen3 (up to 6 Gb/s) 1x PEG Port with PCIe x16 Gen 3 8x PCIe Gen 3 (4 × 1 or 1 × 4) 1x LPC bus 1x Intel® HD audio (HDA) 1x I2C, (2nd I2C optional) (master/slave capable) 1x SMBus 1x SPI (for external uEFI BIOS flash) 2x Serial Port (Rx/Tx, legacy compatible) (4 wire optional through TQ flexiCFG) 8x GPIO
<b>Memory</b>	DDR4-2133: up to 32 GB, w. ECC option, 2 SO-DIMMs EEPROM: 32-kBit (24LC32)	<b>Power supply</b>	Voltage: 8.5 V – 20 V 5 V Standby (optional) 3 V battery Power: typ. 25–30 W/max. 60 W (Green ECO-Off: < 0.1 W)
<b>Additional components and controller</b>	TPM (SLB9660 TPM 1.2, alternatively SLB9665 TPM 2.0) TQMx86 board controller with watchdog and flexiCFG Hardware monitor for thermal management	<b>Environment</b>	Temperature: 0°C...+60°C
<b>Graphics</b>	Three independent display outputs: 3x Digital Display Interface/DP++ with up to 4K @ 60 Hz for DP 1.2a/HDMI 1.4 with multi stream transport (MST) LVDS Interface (18/24-bit, Single/Dual Channel) (optional eDP 1.3 with 4 lanes instead of LVDS) Intel® Quick Sync Video and Wireless Display support	<b>Form factor/ dimensions</b>	COM Express® Basic, type 6, PICMG COM.0 R2.1 125 mm x 95 mm

## BLOCK DIAGRAM TQMX60EB



## ORDERING INFORMATION

<b>TQmx60EB-AA</b>	Intel® Core™ i7-6822EQ (4x 2.0 / 2.8 GHz, 8 MB, GT2, 25 W), CM236, LVDS, TPM, Standard Temp 0..+60°C
<b>TQmx60EB-AB</b>	Intel® Core™ i5-6442EQ (4x 1.9 / 2.7 GHz, 6 MB, GT2, 25 W), CM236, LVDS, TPM, Standard Temp 0..+60°C
<b>TQmx60EB-AC</b>	Intel® Core™ i3-6102E (2x 1.9 GHz, 3 MB, GT2, 25 W), CM236, LVDS, ECC Option, Standard Temp 0..+60°C
<b>TQmx60EB-AD</b>	Intel® Celeron® G3902E (2x 1.6 GHz, 2 MB, GT1, 25 W), HM170, LVDS, Standard Temp 0..+60°C
<b>TQmx60EB-AE</b>	Intel® Celeron® G3900E (2x 2.4 GHz, 2 MB, GT1, 35 W), HM170, LVDS, Standard Temp 0..+60°C
<b>TQmx60EB-AF</b>	Intel® Xeon® E3-1515M v5 (4x 2.8 / 3.7 GHz, 8 MB, GT4e, 45 / 35 W), CM236, LVDS, TPM, ECC Option, Standard Temp 0..+60°C
<b>TQmx60EB-AG</b>	Intel® Xeon® E3-1505L v5 (4x 2.0 / 2.8 GHz, 8 MB, GT2, 25 W), CM236, LVDS, TPM, ECC Option, Standard Temp 0..+60°C

Other configurations on request

<b>Evaluation platform MB-COME6-2</b>	Mainboard for COM Express® Compact/Basic, Type 6, Interfaces: 2x HDMI, DP++, LVDS, 2x Gb Ethernet, 4x USB 3.0, 8x USB 2.0, 2x COM, audio, mini PCIe, m.2, 2.5" SSD, riser extension with PCIe x16, fan, debug, 170 mm x 170 mm
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<b>STKx60EB</b>	Starterkit Set with Mainboard MB-COME6-2, Module (TQmx60EB-xx) (please specify exact Version), Cooling solution (Heat spreader), Accessories
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