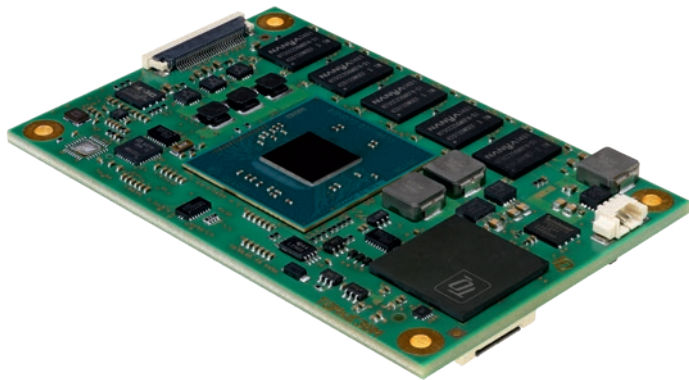


# TQMxE38M

## x86 Family



### COM Express® Mini Type 10 Module with Intel Atom® E3800 ("Bay Trail-I").

Based on

**COM Express**



Technology  
Provider  
Platinum 2018

### TECHNICAL SPECIFICATION

|                            |   |
|----------------------------|---|
| <b>CPU</b>                 | Intel® Atom™ E3800 („Bay Trail-I“)<br>E3815: 1x 1.46 GHz, 512 KB L2-Cache, 5 W<br>E3805: 2x 1.33 GHz, 1 MB L2-Cache, 3 W, without graphics<br>E3825: 2x 1.33 GHz, 1 MB L2-Cache, 6 W<br>E3826: 2x 1.46 GHz, 1 MB L2-Cache, 7 W<br>E3827: 2x 1.75 GHz, 1 MB L2-Cache, 8 W<br>E3845: 4x 1.91 GHz, 2 MB L2-Cache, 10 W |
| <b>Memory</b>              | DDR3L: 2 GB, 4 GB, (8 GB) with ECC support<br>EEPROM: 32-kbit (24LC32)  |
| <b>Graphics</b>            | 2x Digital Display Interface (DDI) for eDP 1.3, DP 1.1a, DVI, HDMI 1.4a or LVDS (with external converter)   |
| <b>System interfaces</b>   | 1x Gbit Ethernet (Intel® i210) (external IEEE1588 sync optional through TQ flexiCFG)<br>1x USB 3.0<br>3x USB 2.0<br>1x USB 3.0 device   |
| <b>Security components</b> | TPM (SLB9660 TPM 1.2, alternatively SLB9665 TPM 2.0)  |
| <b>Others</b>              | TQMx86 board controller with watchdog and flexiCFG<br>Industrial real time clock (iRTC)<br>Hardware monitor   |

### HIGHLIGHTS

- ▶ Intel® Atom™ E3800 ("Bay Trail-I")
- ▶ Up to 8 GB DDR3L with ECC support
- ▶ Optimized for ultra low power
- ▶ Extended temperature support
- ▶ Feature-rich uEFI BIOS with easy-config, multi-setup and touch support
- ▶ TQMx86 board controller with flexible customization options (flexiCFG)
- ▶ TPM 1.2/2.0
- ▶ iRTC (highly accurate industrial real time clock)
- ▶ "Green ECO-Off" (minimum of standby power)
- ▶ Watchdog und thermal management
- ▶ Highest reliability, 24/7 certified
- ▶ Very robust design, formal coating capability

### Peripheral interfaces

2x SATA 2.0 (up to 3 Gb/s), eSATA capable  
3x PCIe 2.0 (up to 5 Gb/s) (4th lane optional, if no Ethernet)  
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)  
1x SD card interface/optional 8x GPIO (multiplexed)

### Power supply

Voltage: 4.75 V – 20 V  
4.75 V – 20 V Standby (optional)  
3 V Battery/GoldCAP (optional)  
Power: typ. 3 – 6 W/max. 12W  
(Green ECO-Off: < 0.1 W)

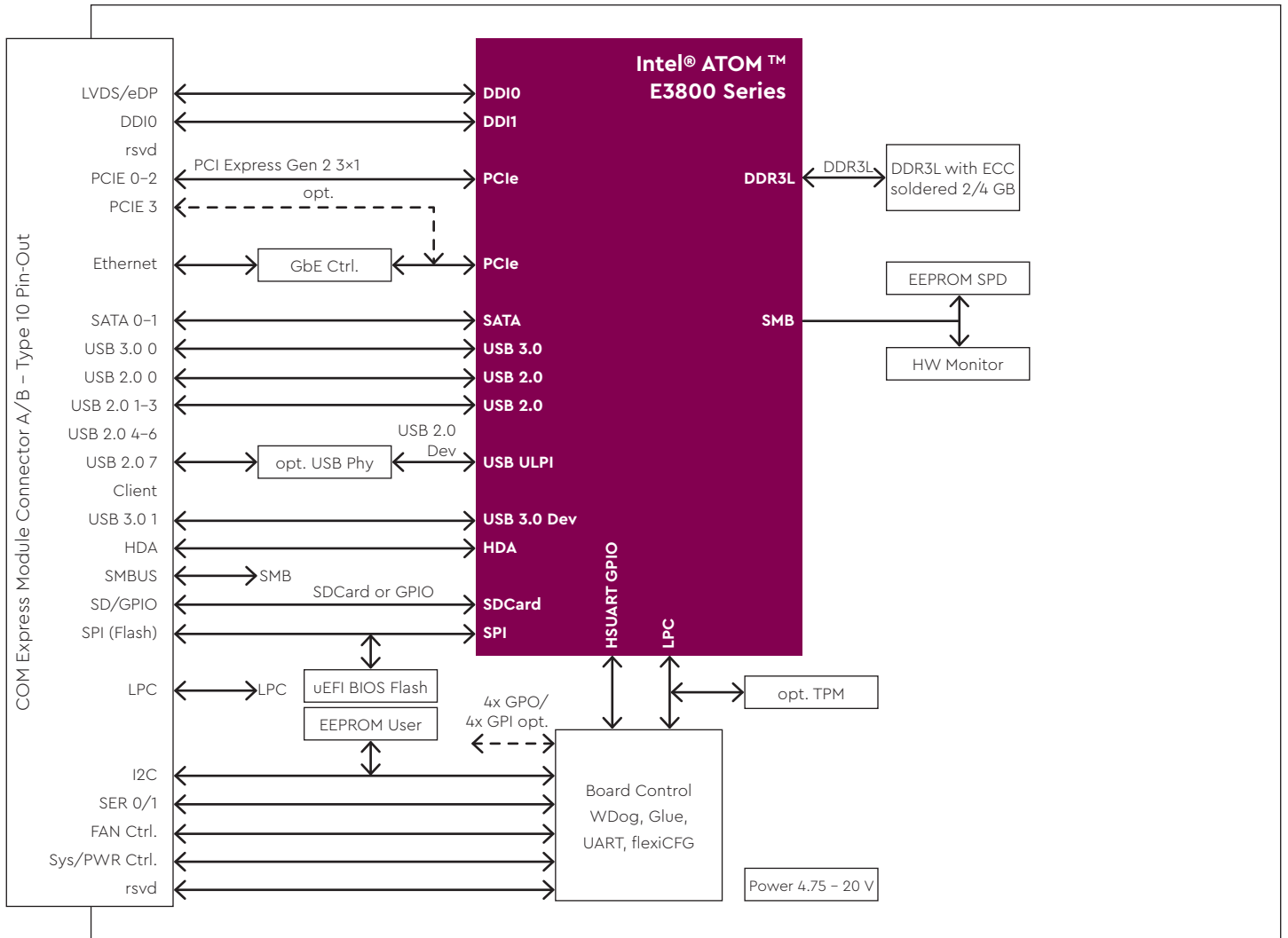
### Environment

Extended temperature: -40°C...+85°C

### Form factor/ dimensions

COM Express™ Mini, type 10,  
84 mm x 55 mm

## BLOCK DIAGRAM TQMxE38M



## ORDERING INFORMATION

|                    |  |
|--------------------|--|
| <b>TQMxE38M-AI</b> | Intel Atom® E3845 (Quad Core, 1.91 GHz, 2 MB L2-Cache, HD Gfx 542/792 MHz, 10 W), 8GB DDR3L-1333 ECC, TPM 1.2, Standard-Temp. 0..+60°C                           |
| <b>TQMxE38M-AA</b> | Intel Atom® E3845 (Quad Core, 1.91 GHz, 2 MB L2-Cache, HD Gfx 542/792 MHz, 10 W), 4GB DDR3L-1333 ECC, TPM 1.2, USB 3.0 Device Support, Extended-Temp. -40..+85°C |
| <b>TQMxE38M-AG</b> | Intel Atom® E3845 (Quad Core, 1.91 GHz, 2 MB L2-Cache, HD Gfx 542/792 MHz, 10 W), 4GB DDR3L-1333 ECC, TPM 1.2, USB 3.0 Device Support, Standard-Temp. 0..+60°C   |
| <b>TQMxE38M-AH</b> | Intel Atom® E3827 (Dual Core, 1,75 GHz, 1 MB L2-Cache, HD Gfx 542/792 MHz, 8 W), 4GB DDR3L-1333 ECC, Extended-Temp. -40..+85°C                                   |
| <b>TQMxE38M-AB</b> | Intel Atom® E3827 (Dual Core, 1,75 GHz, 1 MB L2-Cache, HD Gfx 542/792 MHz, 8 W), 4GB DDR3L-1333 ECC, Standard-Temp. 0..+60°C                                     |

Other configurations on request

|  |  |
|--|--|
| <b>Evaluation platform MB-COME10-1</b> | Mainboard for COM Express™ Minimodules, Type 10 Interfaces: DP, eDP/LVDS, 2x Gb Ethernet, 4x USB, USB device, 3x COM, audio, mini PCIe, mSATA, 2.5" SSD, SD card, riser extension with PCIe and USB, fan, debug, 170 mm x 170 mm |
| <b>STKxE38M</b>                        | Starterkit Set with Mainboard MB-COME10-1-AA, Module (TQMxE38M-xx) (please specify exact Version), Cooling solution (Heat spreader), Accessories   |

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