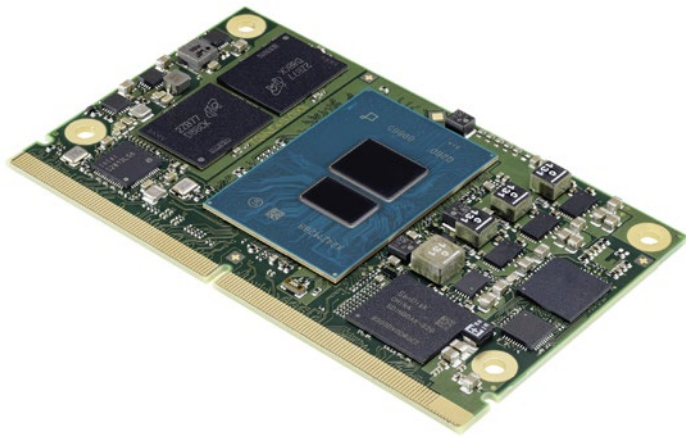


TQMxE41S

x86 Family

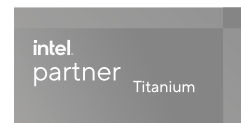


SMARC 2.1 Module with Intel Atom® processors x7000E Series, Intel® Core™ i3 processors, and Intel® Processors N Series ("Alder Lake-N").

HIGHLIGHTS

- ▶ Intel Atom® processors x7000E Series, Intel® Core™ i3 processors, and Intel® Processors N Series (Codename Alder Lake-N)
- ▶ One common design from dual-core up to 8-core
- ▶ High efficiency with 6 W to 15 W processor power
- ▶ Up to 16 GB LPDDR5, with In-Band-ECC (option)
- ▶ Up to 256 GB eMMC
- ▶ Three independent high-resolution display outputs including DP++, HDMI and eDP/LVDS
- ▶ Intel® AVX256 and Intel® Deep Learning Boost support
- ▶ 2x 2.5 Gigabit ETH, high-speed PCIe and IO
- ▶ Extended security features
- ▶ Small size (82 mm x 50 mm)
- ▶ SGeT SMARC 2.1 (RC1) compliant

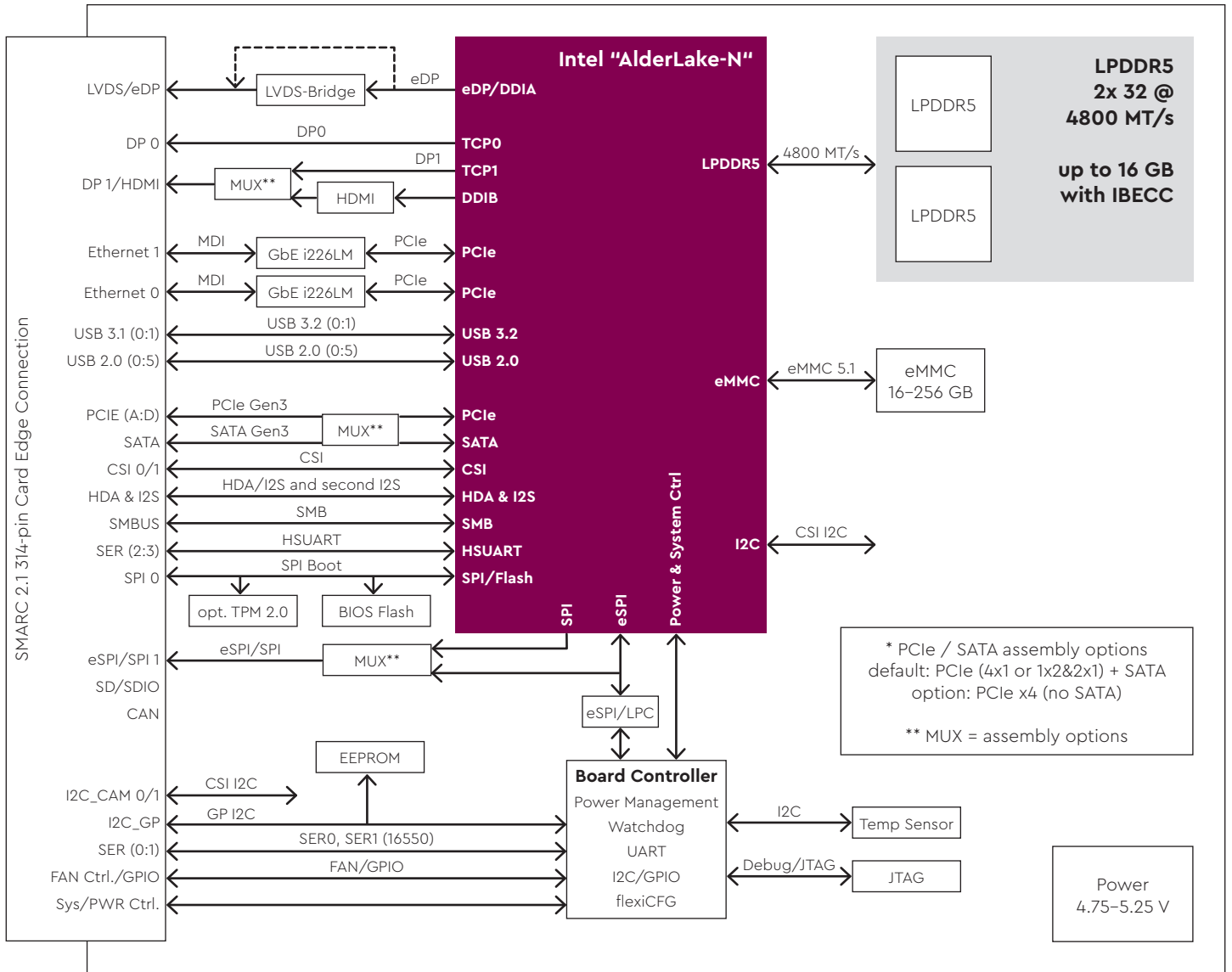
Based on



TECHNICAL SPECIFICATION

CPU	Intel® Core™ i3-N305 (8-Core, 1.8/3.8 GHz, 32 EU, 15 W TDP) Intel® Core™ i3-N305* (8-Core, 1.0/3.8 GHz, 32 EU, 9 W cTDP) Intel Atom® x7425E (4-Core, 1.5/3.4 GHz, 24 EU, RT, 12 W TDP) Intel Atom® x7413E (2-Core, 1.7/3.2 GHz, 16 EU, RT, 10 W TDP) Intel Atom® x7411E (2-Core, 1.0/3.2 GHz, 16 EU, RT, 6 W TDP) Intel® Processor N200 (4-Core, 1.0/3.7 GHz, 32 EU, 6 W TDP) Intel® Processor N97 (4-Core, 2.0/3.6 GHz, 24 EU, 12 W TDP) Intel® Processor N50 (2-Core, 1.0/3.4 GHz, 16 EU, 6 W TDP)	
Memory	LPDDR5: 4, 8, 16 GB, with In-Band-ECC option (BIOS config) eMMC: 16, 32, 64, 128, 256 GB Industrial iNAND EEPROM 32 KB	
Graphics	1x eDP (4K @ 60 Hz) or Dual Channel LVDS (18/24-bit) (assembly option) 1x DP++ (4K @ 60 Hz) 1x DP++ or HDMI (4K @ 60 Hz) (assembly option)	
Additional components and controller	1x TPM 2.0 (SLM9670) (assembly option) TQMx86 board controller Hardware monitor for thermal management	
Interfaces	2x 2.5 Gigabit Ethernet (Intel® i226) 2x USB 3.2 Gen2 (up to 10 Gb/s) 6x USB 2.0 4x PCIe Gen3 (up to 8 Gb/s per Lane) (div. configurations) 1x SATA Gen3 (up to 6 Gb/s) (n/a in PCIe x4 config) 1x HD audio (HDA) 1x eSPI (standard) or SPI (assembly option) 1x SPI (for external UEFI BIOS flash) 1x I2C 1x SMBus 4x Serial port (2x 16550, 2x HS-UART) 14x GPIO, incl. fan-control 2x MIPI-CSI-2 ports (limited SW support)	
Power supply	Main Voltage: 4.75 V – 5.25 V RTC Battery Voltage: 3 V Power: typ. 3 – 12 W / max. TBD	
Environment	Standard temperature: 0°C...+60°C	
Form factor/ dimensions	SMARC 2.1 82 mm x 50 mm	

BLOCK DIAGRAM TQMxE41S



ORDERING INFORMATION

TBD (standard variant definition in progress)

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