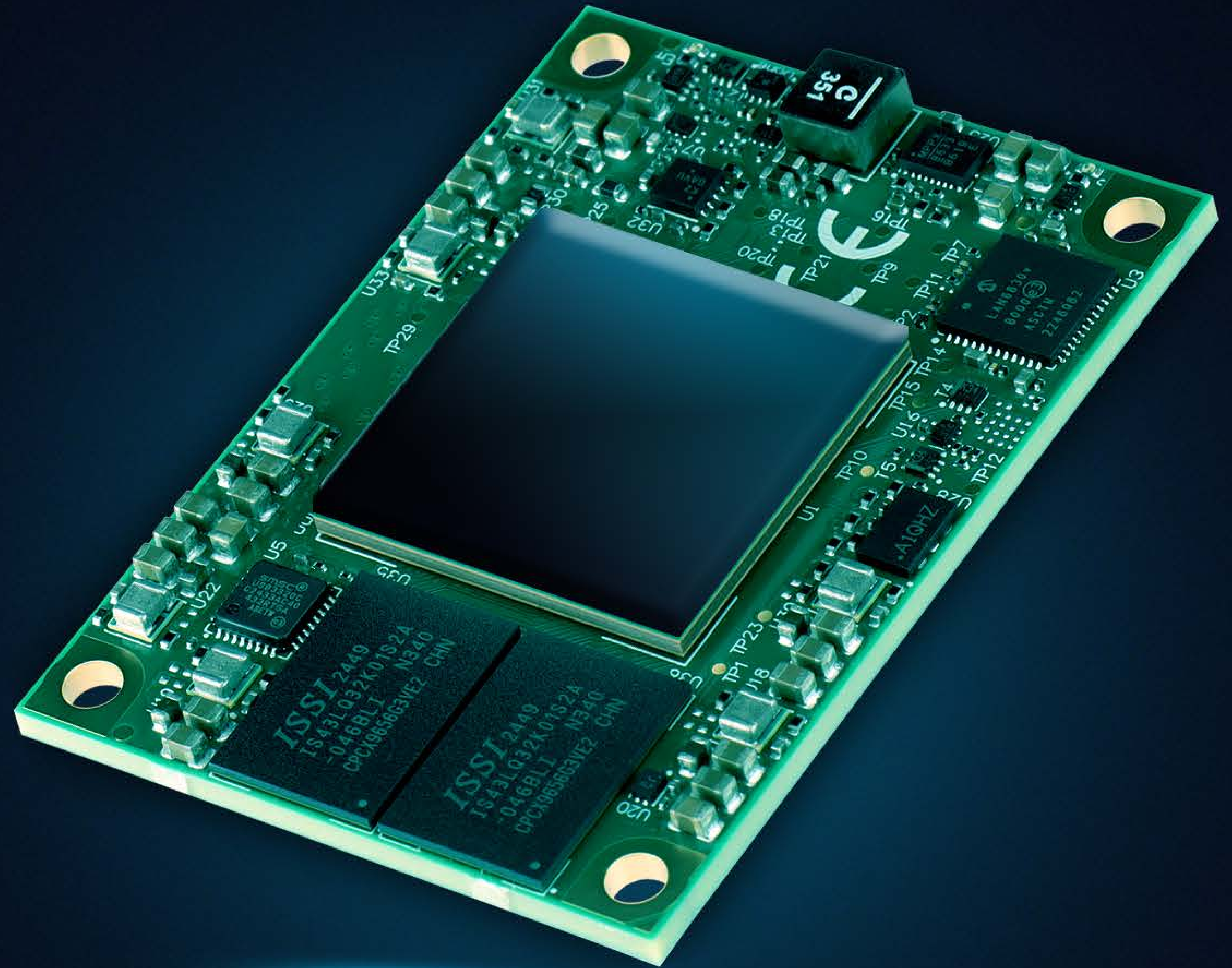




What's next?

A Roadmap.



Our highlights

- TE0825 AMD Zynq™ UltraScale+™ 3
- TE0836 AMD Zynq™ UltraScale+™ RFSoc 4
- TE0860 AMD Zynq™ UltraScale+™ 5
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TE0825

AMD Zynq™ UltraScale+™

SoC

AMD Zynq™ UltraScale+™

Device: XCZU1, ZU2, ZU3, ZU4, ZU5 (Industrial grade),
XAZU1, ZU2, ZU3 (Automotive grade)

Engine: CG / EG

Speedgrade: -1 / -2 / -3

Temperature Range: Industrial / Automotive

Package: SFVC784

RAM / Storage

Up to 8 GByte 72 bit PS SDRAM with ECC

QSPI Flash 256 Mbyte

SPI dual MRAM 4 Mbit

I2C dual 2kbit MAC EEPROM, single 512Kbit
user EEPROM

Interface

Dual Samtec BGA Connector ADM6

232 SE PL IO (111 diff pairs)

43 PS MIO

4 high speed PS GTR transceivers

4 high speed PL GTH transceivers

1000 BASE-T/X Ethernet PHY

1000 BASE-T1 Ethernet PHY

I2C bus

JTAG

On-Board Peripherals

Real Time Clock

LED „Done“

User LED

Power

Samtec Power Connector UMPT

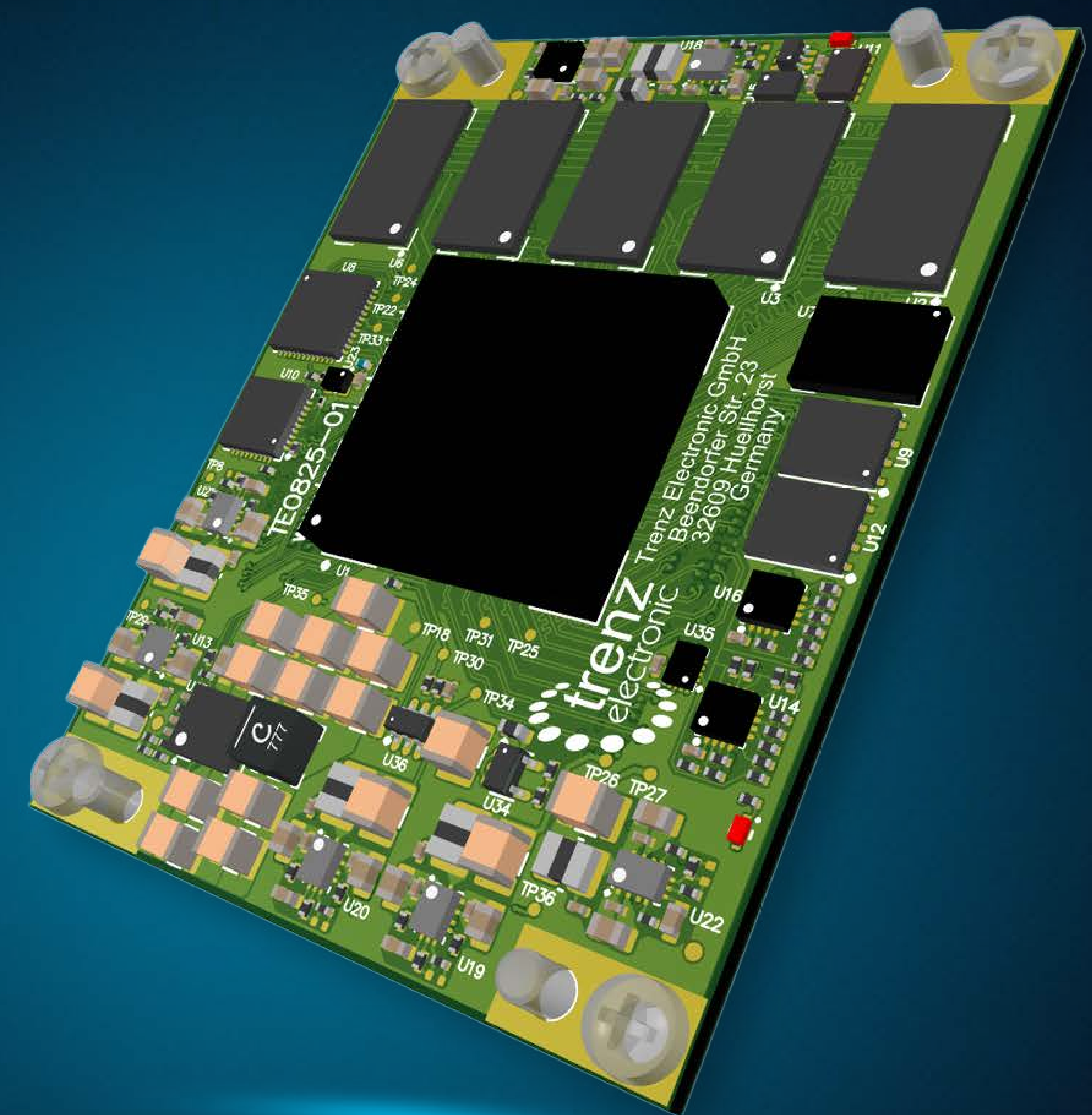
5 V ... 12 V power input

1.8 V power output

3.3 V power output

Dimension

54 x 70 mm



**Automotive
compatible**

TE0836

AMD Zynq™ UltraScale+™ RFSoc

SoC

AMD Zynq™ UltraScale+™ RFSoc (FFVE1156)
Variants: ZU25DR, ZU27DR, ZU28DR, ZU42DR, ZU43DR,
ZU47DR, ZU48DR
Speedgrade: -1 / -2
Temperature Range: Extended / Industrial*

B2B

2x Samtec ADM6 connectors

RF

8x ADC (12- or 14-bit RF-ADC up to 5 GSPS)
8x DAC (14-bit RF-ADC up to 9.85 GSPS)

RAM / Storage

Up to 8GByte 72 bit PS SDRAM with ECC
Dual QSPI 128MByte
I2C MAC EEPROM 2Kbit

Interface

Transceivers 8 PL-GTY, 4 PS-GTR
MIO: 33x SE
HP: 48x SE / 24x DIFF
HD: 20x SE / 10x DIFF

Clock Source

Programmable Clock Generator

On-Board Peripherals

USB2.0 PHY
Gigabit Ethernet PHY
TPM 2.0 chip
FPGA System Oscillator
4x user LEDs

System Controller

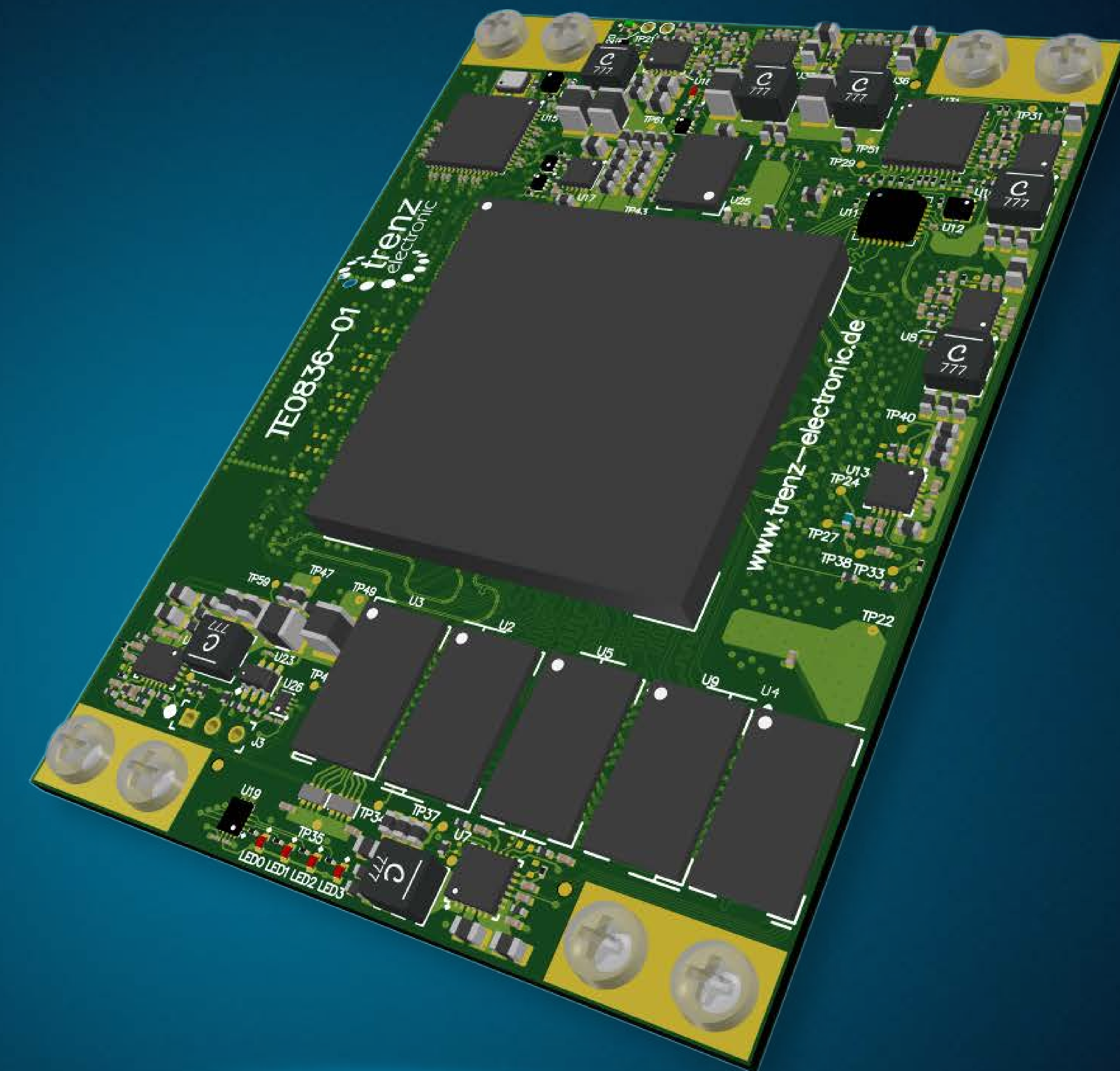
CPLD LCMXO2-640HC-4SG48I

Power

5 V ...12 V Input Supply Voltage

Dimension

90 x 65 mm



Note

*Different packages, speed & temperature ranges are available on assembly options.

TE0860

AMD Zynq™ UltraScale+™

SoC

AMD Zynq™ UltraScale+™

Device: ZU4 / ZU5 / ZU7

Engine: CG / EG / EV

Speedgrade: -1 / -2 / -3

Temperature Range: Extended / Industrial

Package: FBVB900

RAM / Storage

Up to 8 GByte 72-Bit DDR4 SDRAM with ECC (PS domain)

Up to 2 GByte 32-Bit DDR4 SDRAM (PL domain)

Up to 512 MByte QSPI Boot Flash (dual parallel)

Up to 64 GByte eMMC (Boot capable)

2x 2Kbit I2C EEPROM with EUI-48 node identity

Interface

2x Samtec ADM6 240 pin B2B connector

Transceivers: 4x GTR, 16x GTH

Clocks: 4x GTR, 8x GTH

User available IOs: Processing Side: 12x MIO,

I2C MIO level 2: HP Banks: 52 SE / 24 diff

HD Banks: 48 SE / 24 diff

Interfaces: 2x Ethernet, USB 2.0

Configuration: JTAG, Boot mode selection

On-Board Peripherals

2x Gigabit Ethernet PHY transceiver

Hi-Speed USB 2.0 ULPI transceiver with full OTG support

Built-in TPM 2.0 (Trusted Platform Module) protection

Power

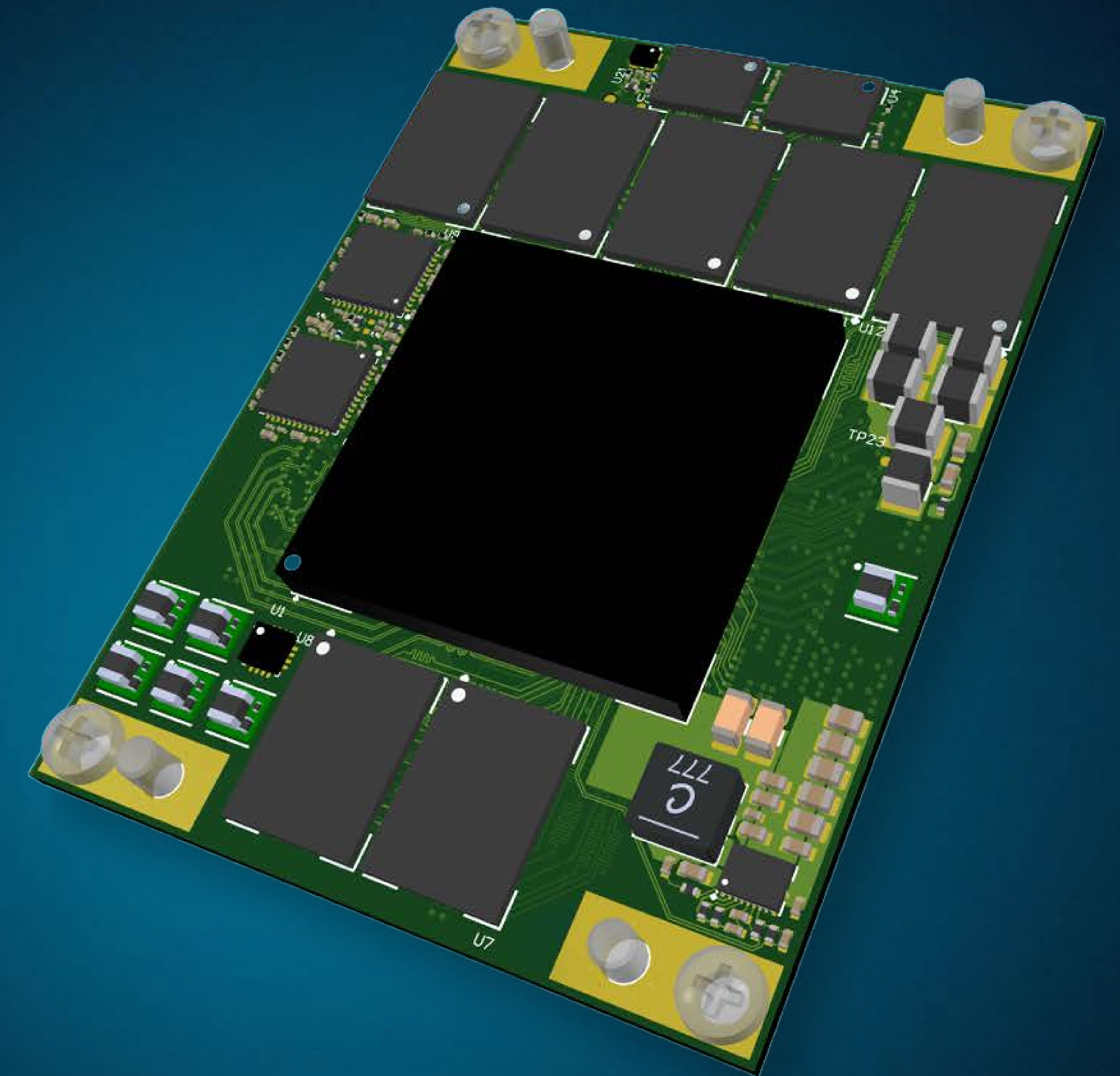
All power supplies are on board.

Single 5 V ... 12 V power input

1.8 V and 3.3 V power outputs are available
on B2B connector

Dimension

55 x 74 mm



TE0861

AMD Zynq™ UltraScale+™

SoC

AMD Zynq™ UltraScale+™

Device: ZU6 / ZU9 / ZU15

Engine: CG / EG

Speedgrade: -1 / -2 / -3

Temperature Range: Extended / Industrial

Package: FFVC900

RAM / Storage

Up to 8 GByte 72-Bit DDR4 SDRAM with ECC (PS domain)

Up to 512 MByte QSPI Boot Flash (dual parallel)

Up to 64 GByte eMMC (Boot capable)

2x 2Kbit I2C EEPROM with EUI-48 node identity

Interface

3x Samtec ADM6 240 pin B2B connector

Transceivers: 4x GTR, 16x GTH

Clocks: 4x GTR, 8x GTH

User available IOs:

Processing Side: 12x MIO, I2C MIO

HP Banks: 156 SE / 72 diff, HD Banks: 48 SE / 24 diff

2x Ethernet, USB 2.0

Configuration: JTAG, Boot mode selection

On-Board Peripherals

2x Gigabit Ethernet PHY transceiver

Hi-Speed USB 2.0 ULPI transceiver with full OTG support

Built-in TPM 2.0 (Trusted Platform Module) protection

3x Oscillator (for MPSoC, Ethernet, USB)

RFID module (optional)

Power

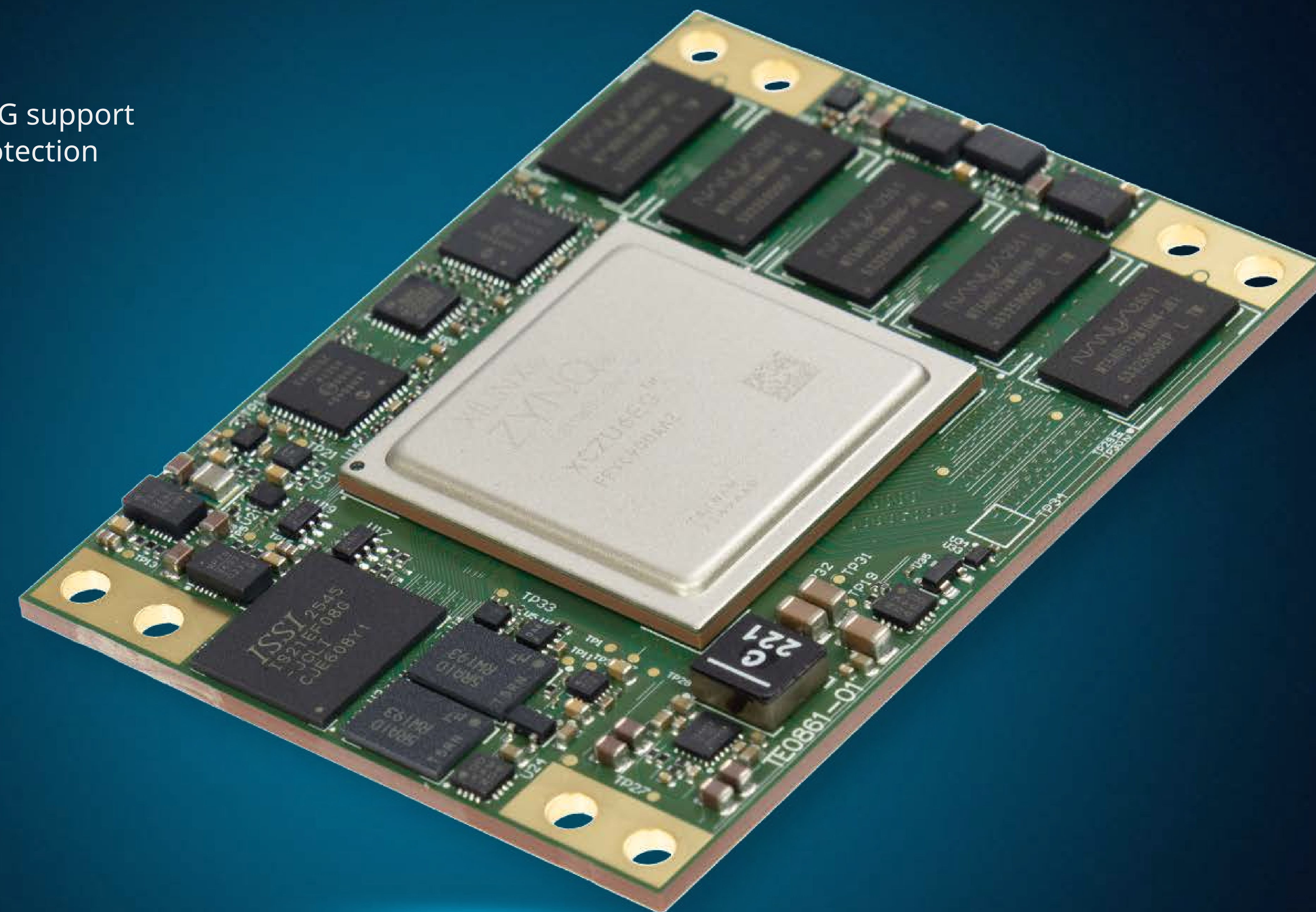
All power supplies are on board.

Single 5 V ... 12 V power input

1.8 V and 3.3 V power outputs are available
on B2B connector

Dimension

55 x 74 mm



TE0873

AMD Spartan™ UltraScale+™

SoC

AMD Spartan™ UltraScale+™
FPGA: XCSU35P (optional: SU10P, SU25P)
Package: SBVB625

RAM / Storage

QSPI Flash 128 Mbit
SDRAM 512 Mbit
EEPROM 128Kbit

Interface

HP Banks: 50 SE / 24 diff
HD Banks: 128 SE / 63 diff
USB2.0 (UART)

On-Board Peripherals

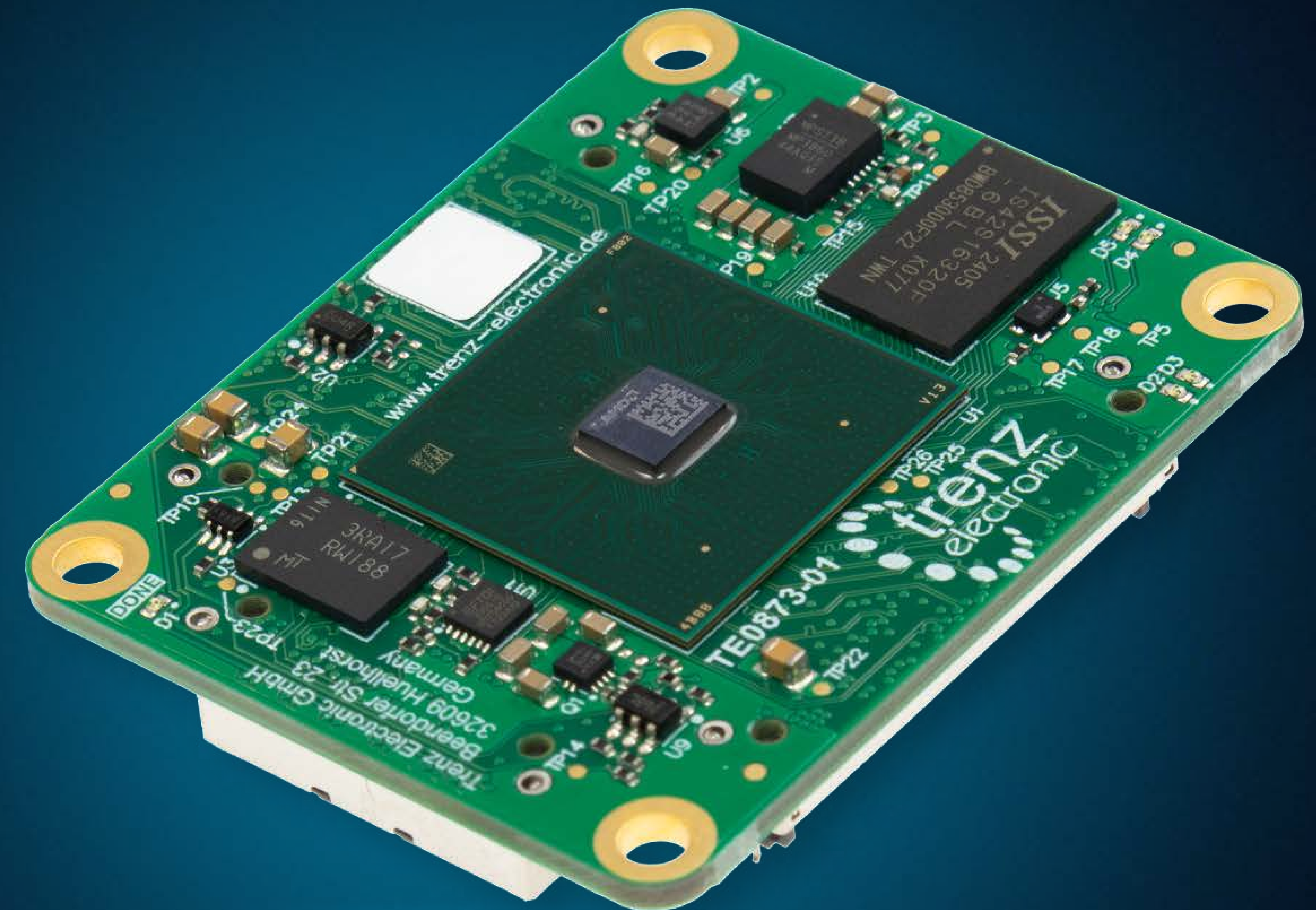
100 MHz Clock generator
3x User LEDs, 1x LED „Done“
B2B Connectors: 3x Samtec LSHM

Power

Power supply: Single 3.3 V or Dual 3.3/5V

Dimension

40 x 50 mm



TE0878

AMD Spartan™ UltraScale+™

SoC

AMD Spartan™ UltraScale+™
FPGA: XCSU200P-1SBVA1024I
Possible variants: SU65P, SU100P, SU150P, SU200P

RAM / Storage

1x QSPI Flash
1x LPDDR4 32 bit

Interface

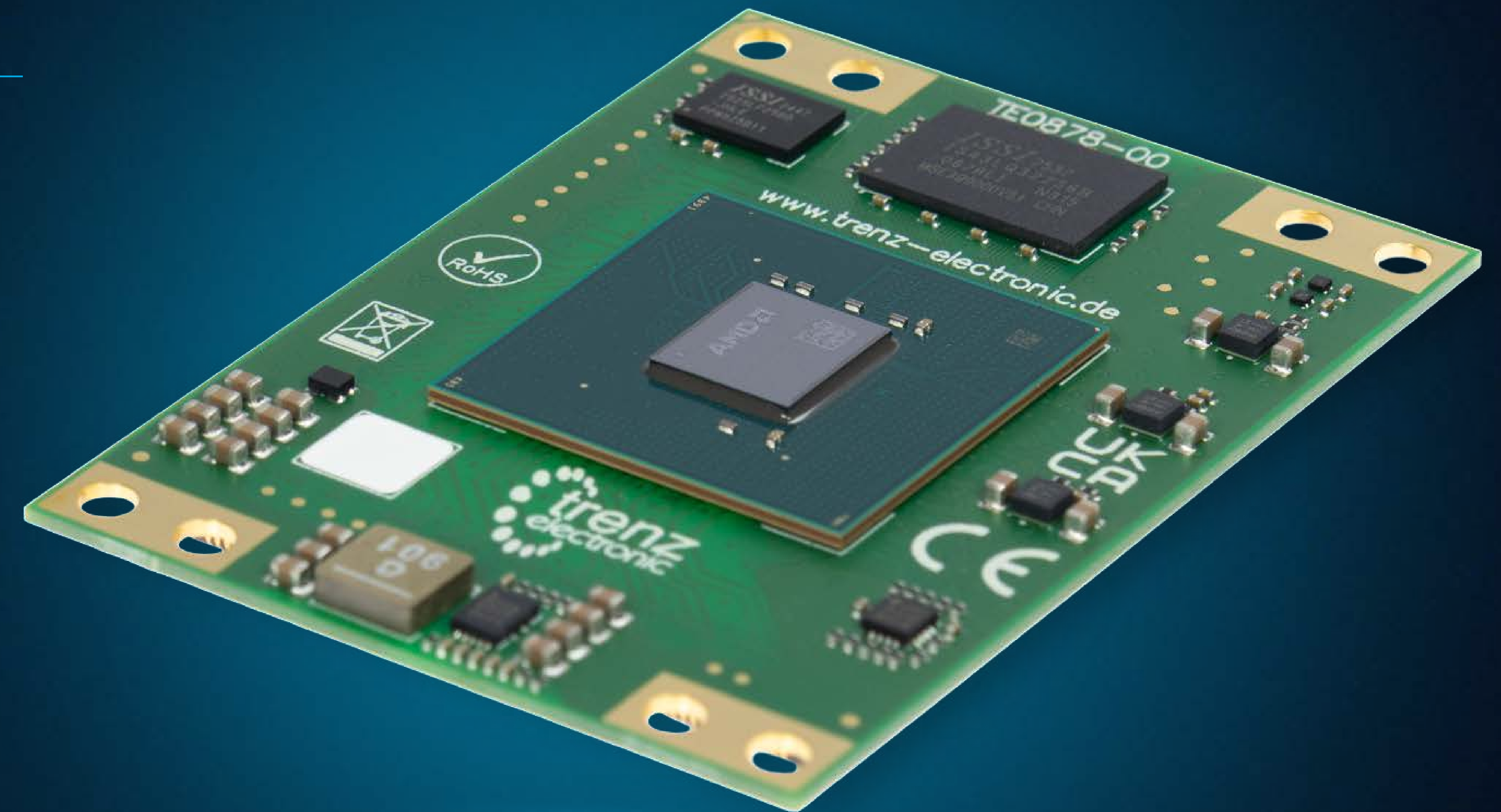
Up to 8x GTH MGT IO
66 x SE (33x diff.) PL XP5IO
294 x SE (147x diff.) PL HD IO
Up to 104x SE (52x diff.) PL HP IO
4x B2B Connectors Samtec ADM6

On Board Peripherals

Clock oscillator
2x LEDs

Dimension

50 x 70 mm



TE0960

AMD Versal™ AI Edge Gen 2

SoC

AMD Versal™ AI Edge Gen 2
Speedgrade: -1 / -2
Temperature Range: Extended / Industrial
Package: SSVA1440

RAM / Storage

3x LPDDR5
Dual SPI Flash
UFS
EEPROM

Interface

zSFP+ Connector
M.2 Connector
CRUVE GTX Connector
CSI Connector
2x ETH PHY
SC Card Connector
CAN
2x USB-C
Pmod Connector
Fan Connector

On Board Peripherals

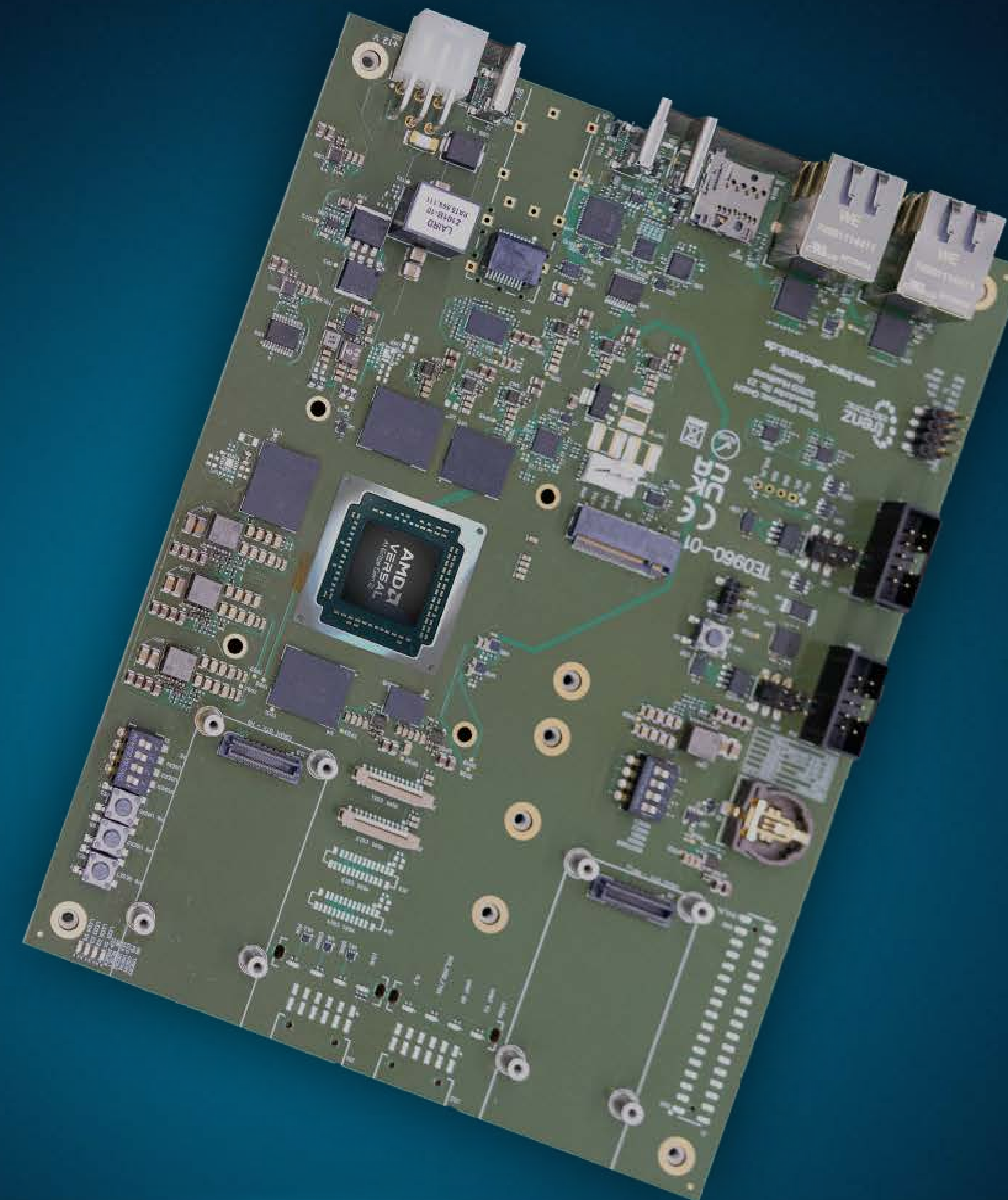
USB to UART/JTAG bridge
TPM
PLL
Oscillator

Power

Power supply: Single 12 V

Dimension

150 mm x 180 mm



TE0963

AMD Versal™ AI Edge Gen 2

SoC

AMD Versal™ AI Edge Gen 2
Possible variants: 2VE3558, 2VE3358, 2VE3504, 2VE3304
Package: SSVA1440

RAM / Storage

QSPI (Data Mode x2) Flash (Boot)
Universal Flash Storage (Boot)
3x 32-bit LPDDR5
2x EEPROM (Ethernet MAC EEPROM +
User Data EEPROM)

Interface

PL: 4 x GTYP Transceivers + Clocks; PS: 4x GTYP
Transceivers + Clocks, 4x PS-GTR Transceivers + Clocks
X5IO: up to 32 diff / 64 single ended I/Os (MIPI ready)
HDIO: 22 diff / 44 single ended I/Os
MIO (SD2.0, UART, I2C, CAN)

On Board Peripherals

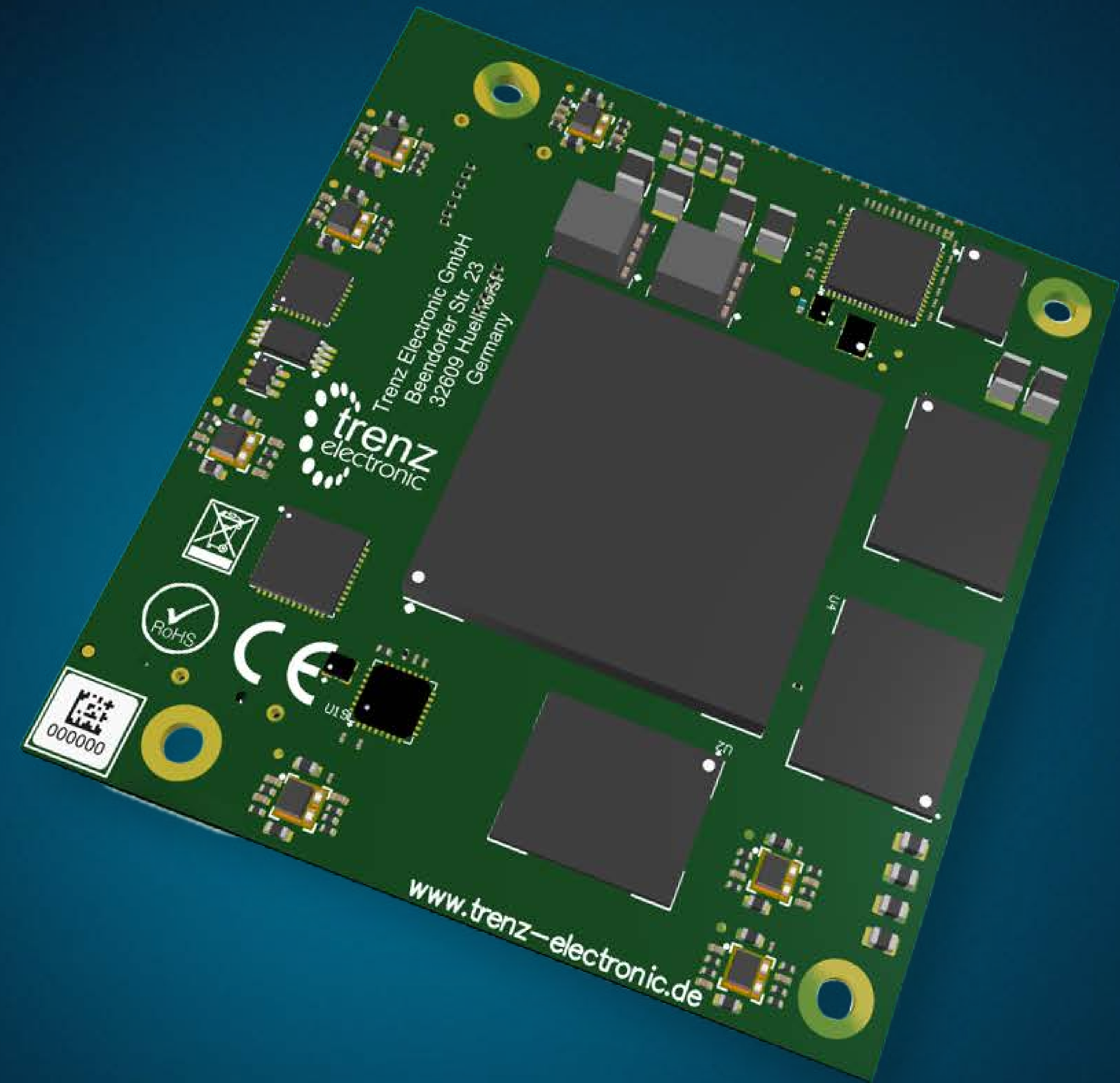
Gigabit Ethernet PHY
USB2.0 PHY
Programmable multichannel Clock Generator

Power

Power supply: Single 12 V

Dimension

75 mm x 70 mm



TE0965

AMD Versal™ AI Edge Gen 2

SoC

AMD Versal™ AI Edge Gen 2
Possible variants: 2VE3804 (Edge), 2VE3858 (Edge),
2VM3858 (Prime) Optionally: 2VE3504 (Edge),
2VE3558 (Edge), 2VM3558 (Prime)
Package: SSVA2112

RAM / Storage

OSPI Flash
Universal Flash Storage (Boot)
4x 32-bit LPDDR5
2x EEPROM (Ethernet MAC EEPROM +
User Data EEPROM)

Interface

PL: 20x GTYP Transceivers + Clocks
PS: 4x GTYP Transceivers + Clocks, 4x PS-GTR Transceivers + Clocks
X5IO: up to 64 diff / 128 single ended I/Os (MIPI ready)
HDIO: 22 diff / 44 SE I/Os
MIO (SD3.0, UART, I2C, CAN)
2x Samtec ADF/ADM B2B connectors
1x Samtec APM6/APF6 B2B connector
Connector-based
Harmonized FPGA Module: oHFM.c-L

On Board Peripherals

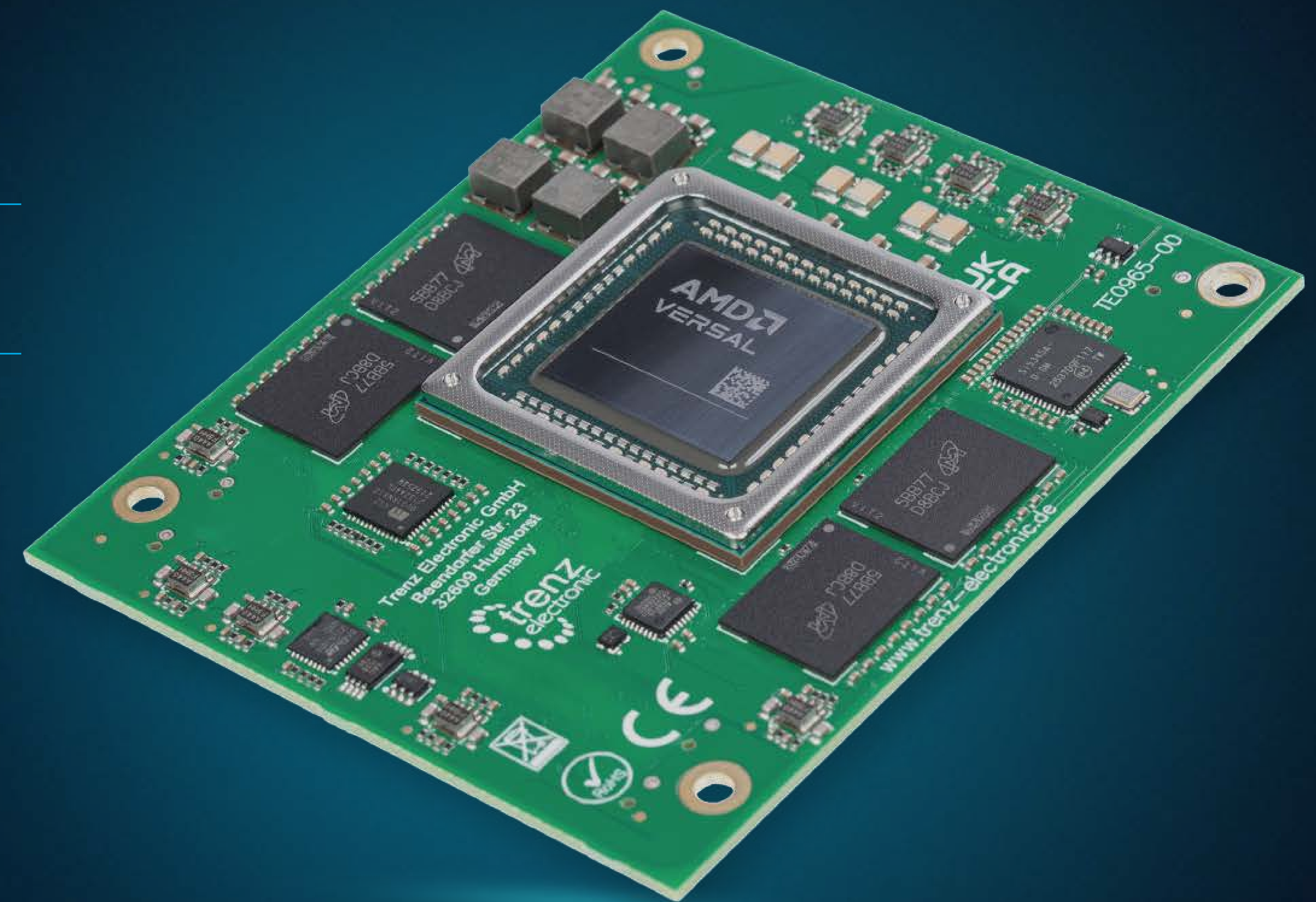
Ethernet PHY
USB2.0 PHY
10x Output Clock Generator

Power

Power supply: Single 12 V

Dimension

75 x 90 mm



TEI0135

Altera® Agilex™ 3

SoC

Altera Agilex 3 SoC C-Series, W-code
Possible variants: A3C 100, 135
Package: B23C (931pin)

RAM / Storage

QSPI Flash, single; 256 Mbit (32 MByte)
(up to 1 Gbit (128 MByte))
LPDDR4 SDRAM (32 Bit) HPS; 1 GByte (up to 4 GByte)
eMMC (selectable eMMC or SDIO);
8 GByte (up to 64 GByte)
2x EEPROM 2kbit with MAC address

Interface

Gigabit transceivers: 4 (support HIP PCIe x4 Gen3),
12.5 Gbit/s
HSIO: 24 diff / 48 SE + MIPI D-PHY
(4 Data+ CLK + REF CLK)
HVIO: 120 SE
HPS: 12 I/O (SD3.0/eMMC, UART, I2C, I3C etc.)
2x 240-pin Samtec AccelerateHD ADM6 connector

On Board Peripherals

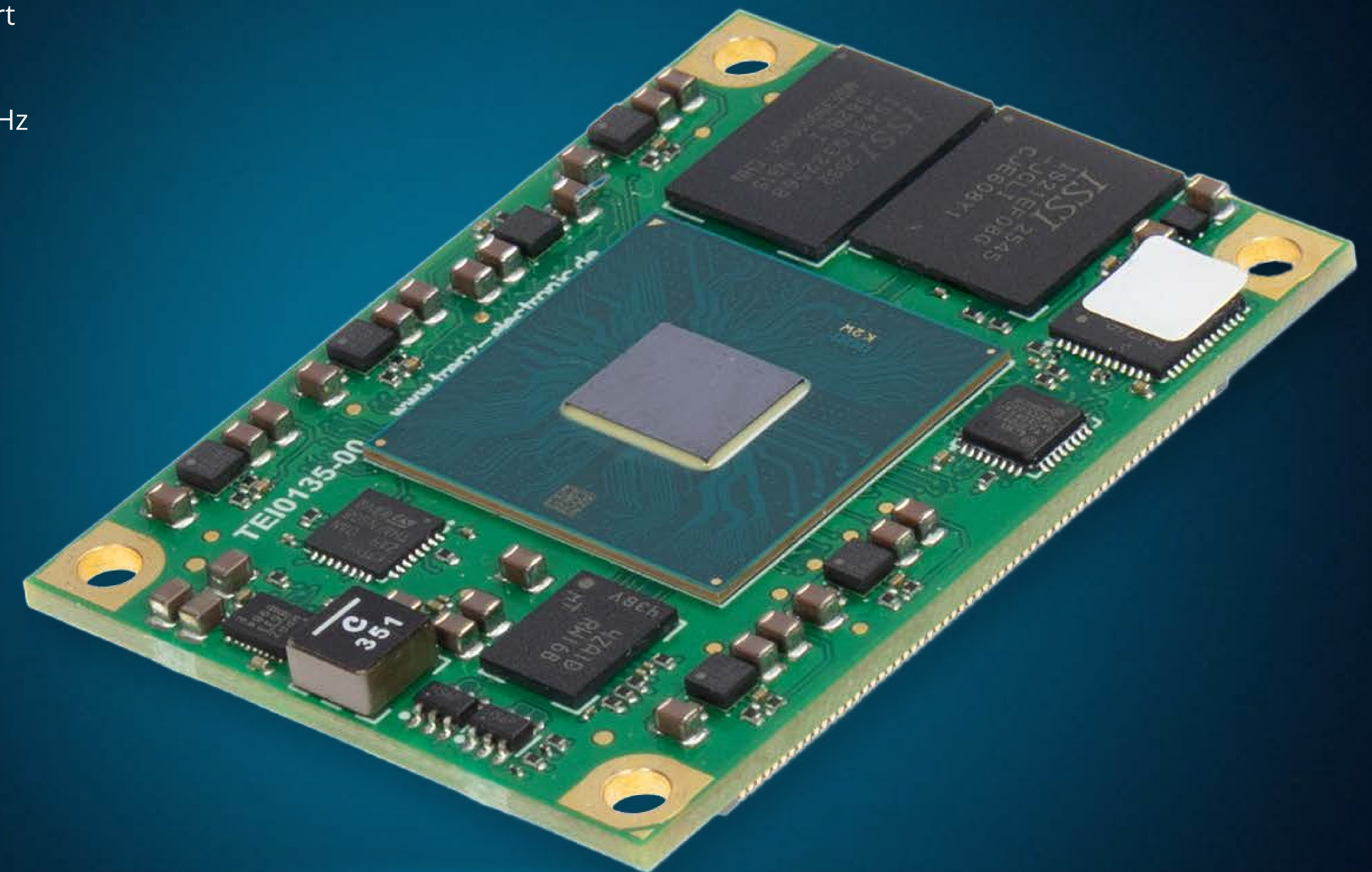
Ethernet (HPS): 1x Gigabit PHY (RGMII)
Ethernet (FPGA): 1x Gigabit PHY (RGMII)
USB: 1x, USB2.0 PHY (ULPI), USB3.1 Support
5Gbps (using XCVR)
Security: Trusted Platform Module TPM 2.0
Clock: 25 MHz (SDM), 25 MHz (HPS), 200 MHz
(LPDDR4), diff. CLKs from B2B

Power

5 V ... 12 V power supply

Dimension

40 x 56.4 mm



TEI0140

Altera® Agilex™ 3

SoC

Altera Agilex 3 SoC C-Series, W-code
Possible variants: A3C 025 (no LPDDR4), 050, 065, 100, 135
Package: B23C (474pin)

RAM / Storage

QSPI Flash, single; 256 Mbit (32 MByte)
(up to 1 Gbit (128 MByte))
LPDDR4 SDRAM (16 Bit) HPS; 512 MByte (up to 2 GByte)
3x EEPROM 4kbit for FTDI, 2kbit, 128kbit

Interface

HVIO: 84 SE
2x 50 pin-header connectors, 1x 14 pin-header connector

On Board Peripherals

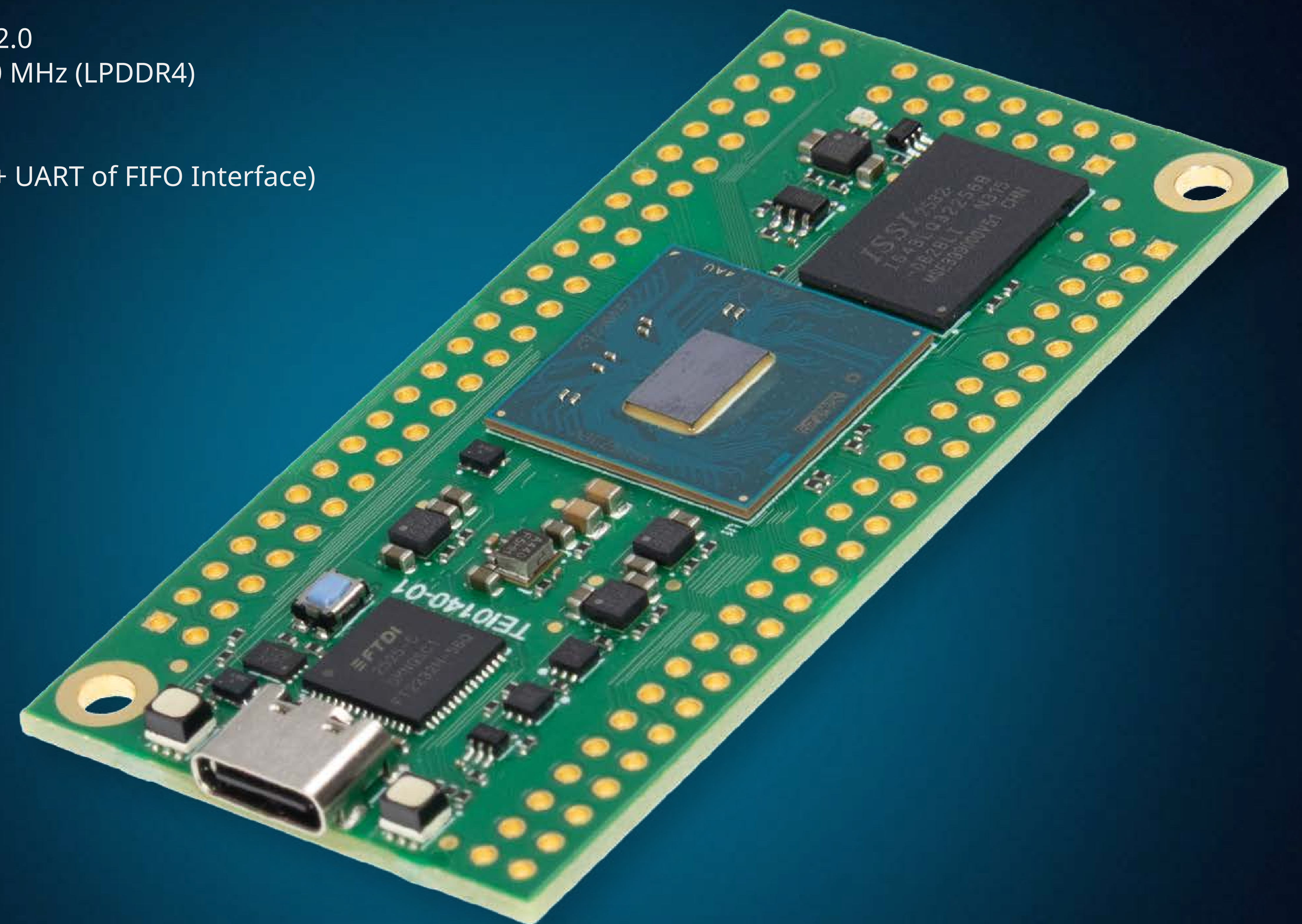
Security: Trusted Platform Module TPM 2.0
Clock: 12 MHz (FTDI), 25 MHz (SDM), 200 MHz (LPDDR4)
LEDs: 2x RGB LED, 1x LED
Push Buttons: 1x User
USB Programmer: USB Blaster III (JTAG + UART or FIFO Interface)

Power

USB-C: 5 V

Dimension

35 x 73 mm



TEI0186

Altera® Agilex™ 5

SoC

Altera Agilex 5 SoC E-Series Device Group B
(A5ED028BB32AE4S)
Compatible device: Device Group A, Specification
C,D: A5E 013A, A5E 028A
Device Group B, Specification A,B,C,D,E: A5E 008B, A5E
013B, A5E 028B (default)
Assembly variants possible on request
Package: B32A

RAM / Storage

1x QSPI Flash, 32MB (Expandable up to 256MB)
1 GB LPDDR4 SDRAM (32 Bit) for HPS
(Expandable up to 4 GB)
8 GB eMMC (Expandable up to 64 GB)
1x 2Kbit & 1x 128Kbit EEPROMs Memory

Interface

MGT*: up to 12x transceivers (up to 28 Gbit/s)
HSIO: 96 diff / 192 SE + MIPI D-PHY
(4 Data + CLK + REF CLK)
HVIO: 200 single ended
HPS IO: 19 I/O (SDIO, UART, I2C, I3C, GPIOs)
3x 240-pin Samtec
Accelerate HD (ADM6) connectors
* depends on FPGA assembly variants, IO resources could be changed

On Board Peripherals

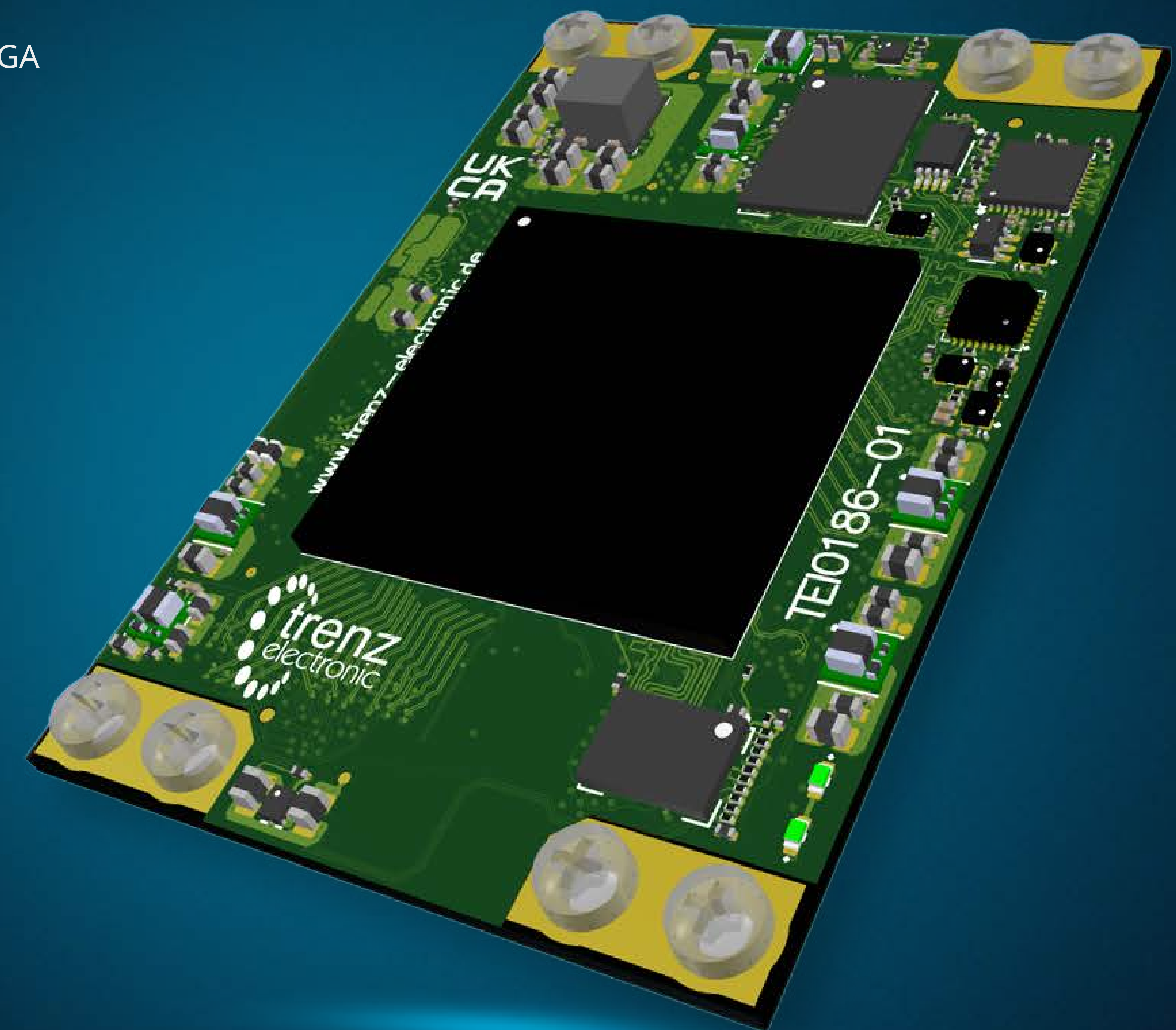
Gigabit Ethernet PHY (RGMII)
USB2.0 PHY (ULPI), Support USB3.1 Gen1 5Gbps (use 1 transceiver)
Security: Trusted Platform Module TPM 2.0
Clocks for LPDDR4 SDRAM, GigE PHY, USB PHY, SDM FPGA
SD3.0 (optional)

Power

5 V ... 12 V power supply

Dimension

52 x 76 mm



PRODUCT LIFECYCLES & EOL

AMD FPGA Products

Series	Device Family	Carrier Board	Launch	Expected EOL
TE09xx	Versal™ AI Edge	-	2024	2045+ (21+)
TE08xx	Zynq™ UltraScale+™Kintex™ UltraScale™	TEBA08xx, TEBF08xx, TEBT08xx	2017	2045 (28)
TE07xx	Zynq™ 7000Artix™ 7Kintex™ 7	TEBA07xx, TEBB07xx, TEB07xx, TEBT07xx, TE070x	2012	2040 (28)
TE0630	Spartan™ 6 USB	TE0303	2011	2030 (19)
TE0600	Spartan™ 6 Ethernet	TE0603	2010	2030 (20)

LIFECYCLE COMMITMENT:

Trenz Electronic keeps module series available as long as key components remain available. Early information from the AMD partner programs supports planned transitions to possible successors.

CARRIER BOARDS:

Carrier boards are no longer produced once all compatible module series have reached EOL.

PRODUCT LIFECYCLES & EOL

ALTERA® FPGA Products

Series	Device Family	Carrier Board	Launch	Expected EOL
TEI0180	Agilex™	-	2019	2035 (16)
TEI0003	Cyclone® 10	-	2017	2040 (23)
TEI0006	Cyclone® 10	TEIB0006	2017	2040 (23)
TEI0009	Cyclone® 10	-	2017	2040 (23)
TEI1000	Stratix® 10	TEB1000	2016	2035 (19)
TEI0001	MAX® 10	-	2014	2040 (26)
TEI0010	MAX® 10	-	2014	2040 (26)

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