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ECUcore-1021
Communication Controller for High Performance Applications

ECUcore-1021 is a compact and cost-effective module that is especially suitable for the use in complex networked applications. With its high number of available communication interfaces and the dual-core 1GHz CPU, the module offers outstanding performance at low power dissipation.
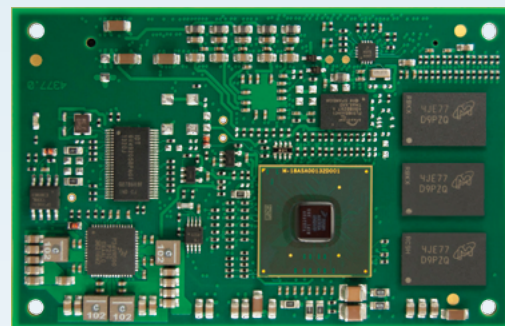
ARM 32-bit Cortex™-A7 dual-core processor

Long-term availability

High number of available I/O

Low power dissipation

Pre-installed Linux OS

based on

freescale
semiconductor

QorIQ
LS1021A

Distributed by **ARROW**

Specifications

Controller	NXP QorIQ LS1021A dual-core communication processor
Core Architecture	Dual-core Cortex®-A7, each with 1GHz, FPU and Neon co-processor
RAM	1GB DDR3L-1600MT (opt. ECC)
Flash	2x 64MB
Communication	3x 1GbE (1 PHY on-board), 4x CAN, USB 3.0, 2x PCIe 2.0, 7x UART, 2x UCC on a ULite QUICC Engine (32-bit RISC co-processor)
Mass Storage	SATA 3.0, SDHC/MMC/eMMC
Video	24-bit RGB (12-bit DDR pin LCD interface)
Audio	4x SAI/I2S, 1x SPDIF, 1x ASRC
I/O	FlexTimer (PWM, CNT, ENC), I2C, SPI, GPIO, 8/16-bit A/D-Bus (FPGA)
Peripherals	Temperature, RTC, watchdog
Board Connector	220-pin connector (COM Express form factor with customized flexible pinout)
Board Dimensions	55x84 mm (COM Express® mini)
Power Supply	3.3V DC single voltage
Power Dissipation	4.5W (under typical load)
Temperature Range	-40°C…85°C (Storage: -55°C…125°C)
MTBF Predictions	min. 650.000h @ 40°C
Availability	15 years (NXP Longevity Program)
Thermal Management	Single heat spreader plate, passive cooling
Security and IP Protection (optional)	Fuses, System Monitoring, Secure Boot, Firmware Protection, QorIQ Trust Architecture
Others (optional)	1x ADC input

For detailed configuration options please contact us!

The ECUcore-1021 is a System on Module based on the NXP QorIQ LS1021A dual-core processor. The LS1021A offers a high number of communication and I/O interfaces combined on a single chip. This enables the customer to configure the chip and to define the available interfaces on the connector independently. This flexibility enables the customer to use the ECUcore-1021 in a wide variety of application scenarios; from simple HMI to a complex network device.

Compared to similar CPUs, the processor used provides high performance at comparatively lower power dissipation. It can be used at industrial environment with high temperature without active cooling. This does not only reduce the needed board space and make the module design compact, but also is cost-effective.

About SYS TEC electronic

SYS TEC electronic is a system house for customized electronic systems. Founded in 1990 in Germany, SYS TEC electronic has more than 25 years of experience providing a comprehensive service from consulting to OEM integration and series production or transfer of technology to our customers in the field of industry, transportation, communication, power management and computing.

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Software Support

- Linux OS Board Support Package with Real Time preempt patches applied
- Pre-integrated IDE with cross-platform toolchain
- Communication protocols (optional):
  POWERLINK, CANopen, EtherCAT, Profinet, Profibus, Modbus
- IEC 61131-3 PLC Runtime Systems (optional):
  CODESYS V3.5 (3S) or OpenPCS (infoteam Software)
- Target- and Web-Visualization
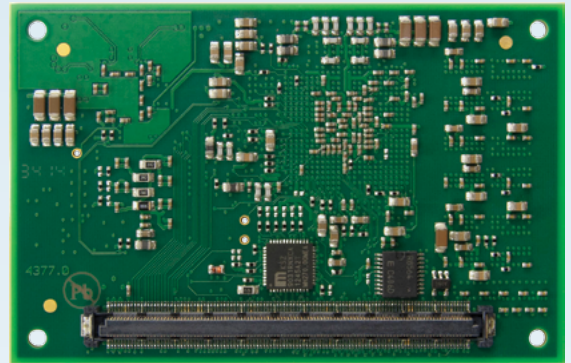
Development Kit

The cost-effective Development Kit enables a quick start of application development based on NXP QorIO LS1021A and ECUcore-1021. The important interfaces are already configured at the Development Board.
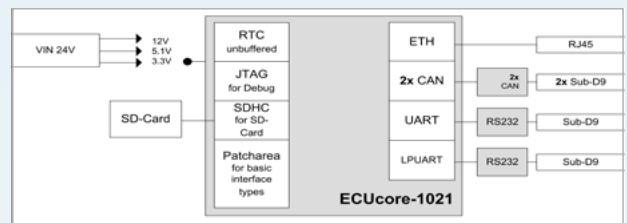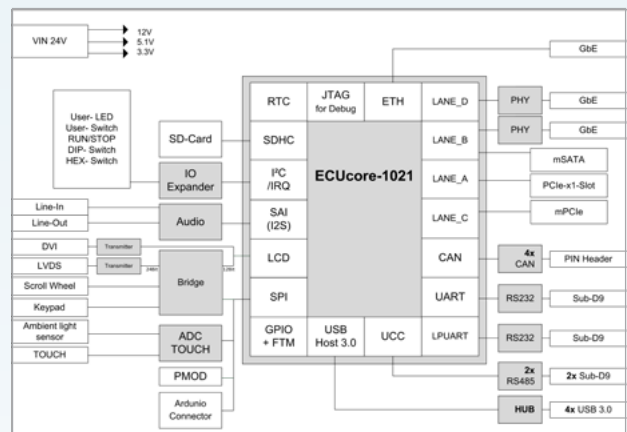

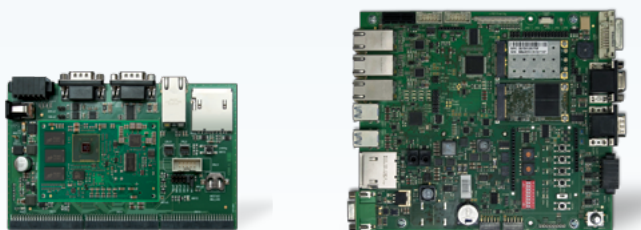Development Board

Application Kit

The Application Kit is optimized in its functionality and can serve as a basis for the development of own devices. It is particular convenient for the use in modern industrial applications that requires secure communication and can also be used as an IoT-Gateway.

The Application Carrier Board offers a comprehensive configuration of interfaces. The components on the Carrier Board were selected on the basis of their long-term availability and reliable operation in industrial environments.

The Application Carrier Board with ECUcore-1021 can be integrated in a ready housing solution and thus be used as a finished product solution.

Application Carrier Board

Development Board

Application Carrier Board with optional mSATA and WiFi Modules

Kit contents:

- ECUcore-1021
- Development Board or Application Carrier Board
- Virtual machine with IDE and toolchain
- Board schematics, BOM of the Carrier Board
- Email & web support

We are looking forward to discussing with you your very own customized Development Kit or ECUcore-1021 configurations.

Please contact our experts!

Ordering Information

4001046	ECUcore-1021
KIT-173	Development KIT
KIT-174	Application KIT

For quotations please contact us:
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