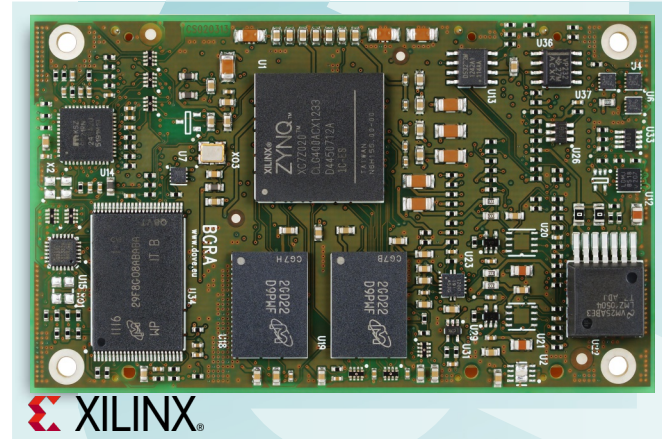


- Unmatched performance thanks to dual ARM Cortex-A9 @ up to 800MHz
- All memories you need: on-board NOR and NAND Flash
- Enabling smarter system thanks to Artix-7 FPGA integrated on chip
- FPGA banks wide range PSU input from 1.2V to 3.3V
- Highest security and reliability: internal voltage monitoring and power good enable
- Reduced carrier complexity: dual CAN, USB, Ethernet GB and native 3.3V I/O
- Easy to fit thanks to its small form factor
- Accurate timing application thanks to on-board 5ppm RTC



BORA is the new top-class Dual Cortex-A9 + FPGA CPU module by DAVE Embedded Systems, based on the recent Xilinx Zynq XC7Z010/XC7Z020 application processor. Thanks to BORA, customers are going to save time and resources by using a compact solution that includes both a CPU and an FPGA, avoiding complexities on the carrier PCB.

The use of this processor enables extensive system-level differentiation of new applications in many industry fields, where high-performance and extremely compact form factor (85mm x 50mm) are key factors. Smarter system designs are made possible, following the trends in functionalities and interfaces of the new, state-of-the-art embedded products.

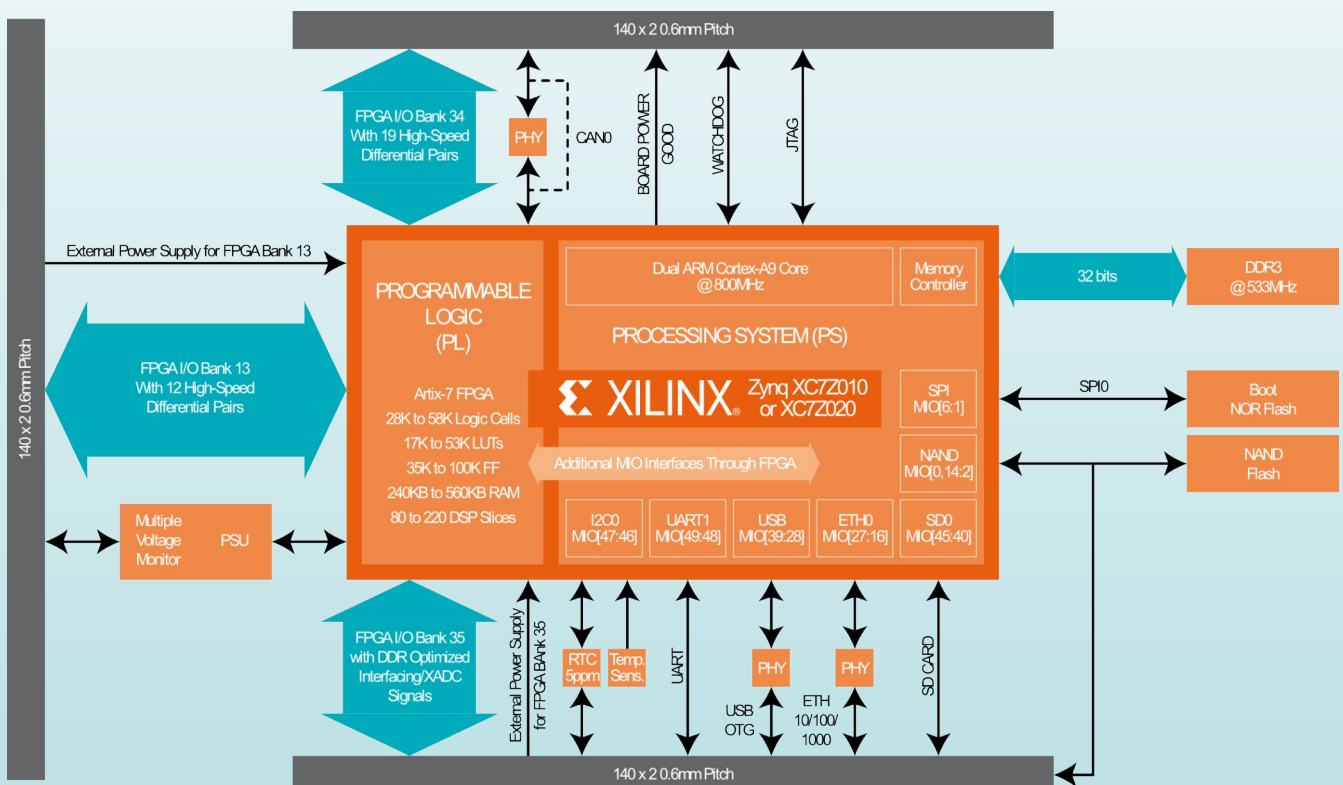
BORA offers great computational power, thanks to the rich set of peripherals, the Dual Cortex-A9 and the Artix-7 FPGA together with a large set of high-speed I/Os (up to 5GHz).

BORA enables designers to create rugged products suitable for harsh mechanical and thermal environments, allowing for the development of the most advanced and robust products.

Thanks to the tight integration between the ARM-based processing system and the on-chip programmable logic, designers are free to add virtually any peripheral or create custom accelerators that extend system performance and better match specific application requirements.

BORA is designed and manufactured according to DAVE Embedded Systems ULTRA Line specifications, in order to guarantee premium quality and technical value for customers who require top performances and flexibility.

BORA is suitable for high-end applications such as medical instrumentation, advanced communication systems, critical real-time operations and safety applications.



CPU Xilinx Dual ARM Cortex-A9 Zynq XC7Z010/XC7Z020 @ up to 800MHz

Supervisor On-board power supply supervision and power sequencer Watchdog and RTC

Memory

Cache 32Kbyte instruction, 32Kbyte data, 512Kbyte L2 for each core

SDRAM Up to 1GB DDR3 @ 533MHz

NOR Bootable SPI NOR 8, 16 MB

NAND All sizes, on request

SRAM 256 Kbyte

Interfaces (full-spec models) *

LAN Ethernet 10/100/1000 Mbps Additional RMII interface

UART up to 2x UART ports

USB up to 2 x 2.0 OTG ports

CAN up to 2 x CAN

Debug JTAG IEEE 1149.1 Test Access Port CoreSight™ and Program Trace Macrocell (PTM)

Other PC Card: 2 x SD/SDIO 2.0/MMC 3.31 compliant controllers up to 2 x I²C channels up to 2 x SPI channels GPIOs available

FPGA

Model Artix-7

Logic Cells 28K to 56K

LUTs 17K to 53K

Flip Flops 35K to 100K

RAM 240KB to 560KB

DSP Slices 80 to 220

Differential Pairs up to 34 differential pairs for high freq. interfaces

Mechanical

Connectors 3 x 140 pin 0.6mm pitch

Size 85mm x 50mm

Temperature Commercial (0°C / +70°C) Industrial (-40°C / +85°C)

PSU

Input 3.3V, on-board voltage regulation

Software

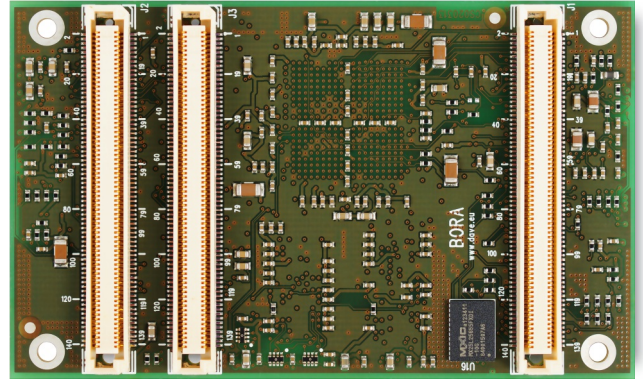
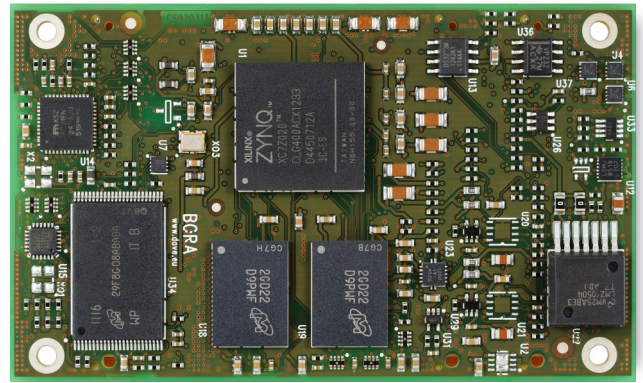
Bootloader U-Boot

Multitasking Linux 3.x.x

Evaluation Kit

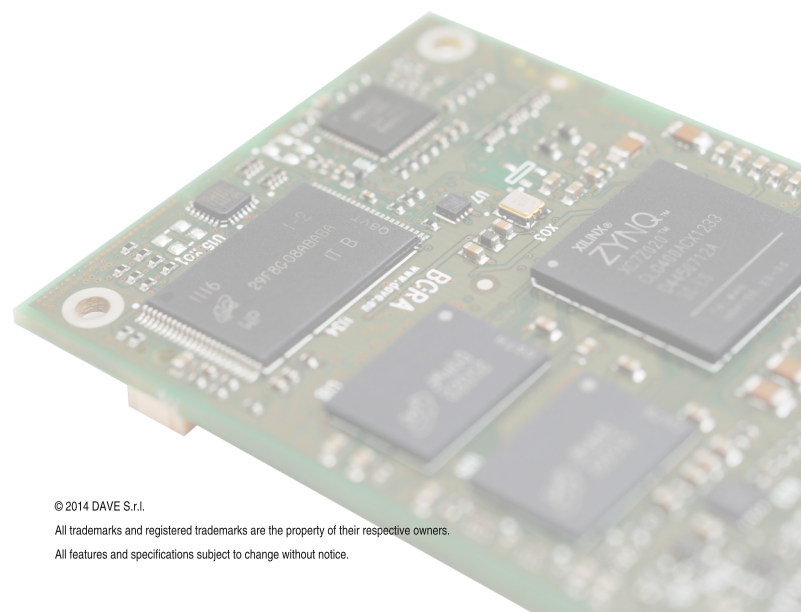
The BORA evaluation kit is available in a development kit that includes a SOM, a carrier board and all accessories required for immediate start-up.

*: interface availability depends on pin multiplexing. Please contact your local FAE.



Product code configurator *

Family	Processor	NOR flash	DDR RAM	NAND flash	BOOT	Temp. range
DBR	A: XC7Z010-1	0= 0MB	1= 1GB	0= 0MB	0 = Nor Boot	C: Commercial temp.
	B: XC7Z010-2	3= 8MB	9= 512MB	1= 1024MB		
	C: XC7Z010-3	4=16MB		7= 128MB	0 / +70°C	
	D: XC7Z020-1			8= 256MB	I: Industrial temp.	
	E: XC7Z020-2			9= 512MB	-40 / +85°C	
	F: XC7Z020-3					



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