

- Unmatched performance thanks to dual ARM Cortex-A9
   @ 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-perfomance and extremely compact form factor (85mm x 50mm) are key factors. Smarter system designs are made possibile, 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**

# XILINX ZYNQ XC7Z010/XC7Z020 CPU MODULE

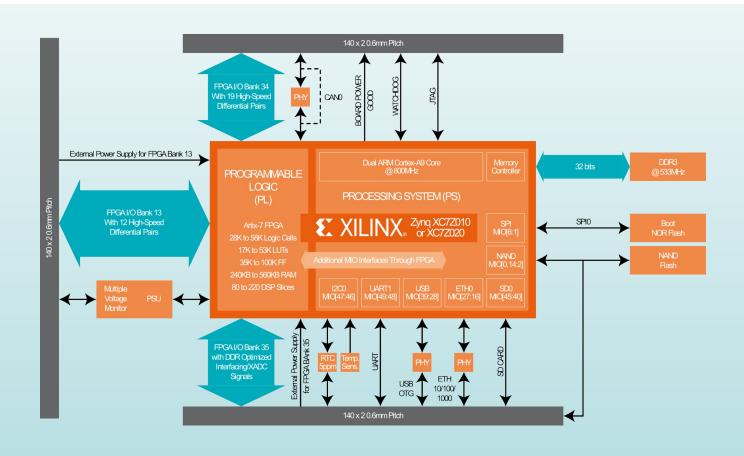


BORA enables designers to create rugged products suitable for harsh mechanical and thermal environments, allowing for the development of the most advanced and robust products.

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 @ 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, 32 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				

Other	PC Card: 2 x SD/SDIO 2.0/MMC 3.31 compliant controllers up to 6 x I <sup>2</sup> C channels up to 6 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. interface				

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

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			

Debug

U-Boot Bootloader Multitasking Linux 3.x.x

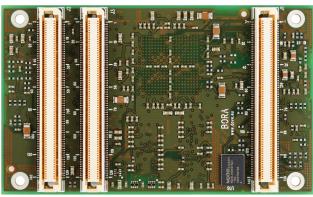
#### **Evaluation Kit**

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

\*: interface availability depends on pin multiplexing

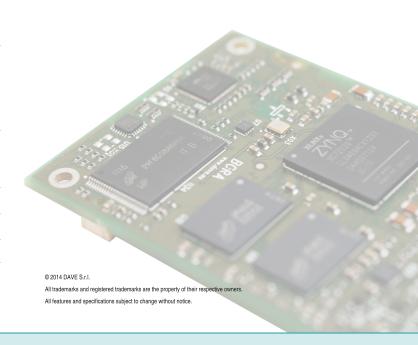
Please contact your local FAE.





### Product code configurator \*

, , , , , , , , , , , , , , , , , , ,									
Family	Processor	NOR flash	DDR RAM	NAND flash	BOOT	Temp. range			
DBR	A: XC7Z010-1 B: XC7Z010-2 C: XC7Z010-3 D: XC7Z020-1 E: XC7Z020-2 F: XC7Z020-3	0= 0MB 3= 8MB 5= 32MB 6= 64MB	1= 1GB 9= 512MB	0= 0MB 1= 1024MB 2= 2048MB 7= 128MB 8= 256MB 9= 512MB	0 = Nor Boot	C: Commercial temp. 0 / +70°C 1: Industrial temp40 / +85°C			





Fax

Via Talponedo, 29/A 33080 Porcia (PN) - ITALY Ph +390434921215

+3904341994030

www.dave.eu wiki.dave.eu sales@dave.eu support-bora@dave.eu





Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию.

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России, а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научноисследовательскими институтами России.

С нами вы становитесь еще успешнее!

#### Наши контакты:

**Телефон:** +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,

Промышленная ул, дом № 19, литера Н,

помещение 100-Н Офис 331