

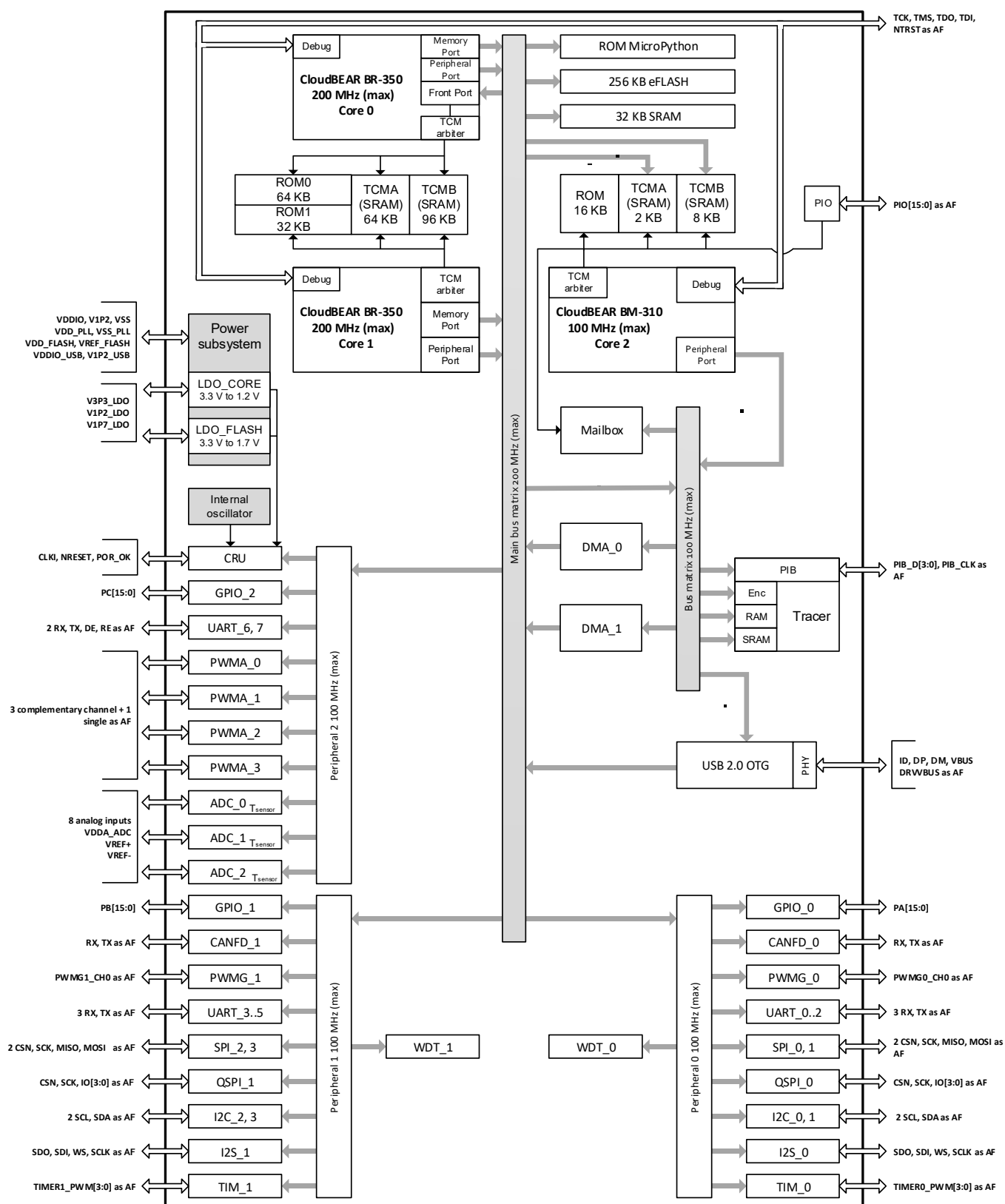
# BE-U1000 Microcontroller

## Product Brief

BAIKAL ELECTRONICS JSC can make changes in this document at any time and without notice.

BE-U1000 is a 32-bit general purpose three-core microcontroller. The characteristics of the BE-U1000 microcontroller allow to be used in IoT, automated process control systems, automotive industry, robotics, industrial automation, motor control and other industries.

<b>Memory</b> <ul style="list-style-type: none"> <li>32 KB SRAM</li> <li>256 KB eFLASH</li> <li>Maximum size of external direct addressable FLASH memory – 16 MB (in XIP mode)</li> </ul>	<b>2 CloudBEAR BR-350 cores</b> <ul style="list-style-type: none"> <li>RISC-V architecture</li> <li>RV32IMCBFNAU(P) ISA extension</li> <li>Maximum operating frequency – 200 MHz</li> <li>Performance – 3.42 CoreMark/MHz (on one core)</li> <li>ROM: 64 KB for core 0 32 KB for core 1</li> <li>Sharing a 160 KB TCM (SRAM) memory block</li> <li>32 KB L1 instruction cache</li> <li>JTAG and TRACE interfaces</li> </ul>	<b>Communication interfaces</b> <ul style="list-style-type: none"> <li>8xUART (2xUART with RS-485 operating mode support)</li> <li>2xSPI (master)</li> <li>2xSPI (slave)</li> <li>4xI<sup>2</sup>C</li> <li>2xQSPI</li> <li>2xI<sup>2</sup>S</li> <li>2xCAN FD</li> <li>USB 2.0 OTG + PHY (HS)</li> </ul>
<b>Timers</b> <ul style="list-style-type: none"> <li>4 timers with 4 PWM channels (PWMA)</li> <li>2 one-channel general-purpose timers (PWMG)</li> <li>2 TIM timers</li> <li>2 watchdog timers</li> </ul>	<b>CloudBEAR BM-310 core</b> <ul style="list-style-type: none"> <li>RISC-V architecture</li> <li>RV32IMCB ISA extension</li> <li>Maximum operating frequency – 100 MHz</li> <li>16 KB ROM</li> <li>10 KB TCM (SRAM)</li> <li>JTAG interface</li> </ul>	<b>Power consumption</b> <ul style="list-style-type: none"> <li>Input voltages: 3.3 V; 1.7 V and 1.2 V (optional); 1.0 V (reference)</li> <li>Maximum current consumption of VDDIO power domain – 250 mA</li> <li>Maximum current consumption of V1P2 power domain – 250 mA</li> <li>Ground pin connected through exposed pad</li> </ul>
<b>3 12-bit ADC</b> <ul style="list-style-type: none"> <li>8 multiplexing channels</li> <li>Sampling frequency – 1 MSps</li> <li>Integrated temperature sensor</li> </ul>		<b>Reference clock source</b> <ul style="list-style-type: none"> <li>External oscillator (25 MHz)</li> <li>Internal oscillator (from 12 to 32 MHz)</li> </ul>
<b>2 DMA controllers</b>		
<b>48 GPIO lines</b>		
<b>Embedded MicroPython</b>		
<b>QFN-88 package, 10x10 mm</b>		



## Revision History

Revision	Date	Description
1.2.2	29.12.2025	Initial version

## Contact Info



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