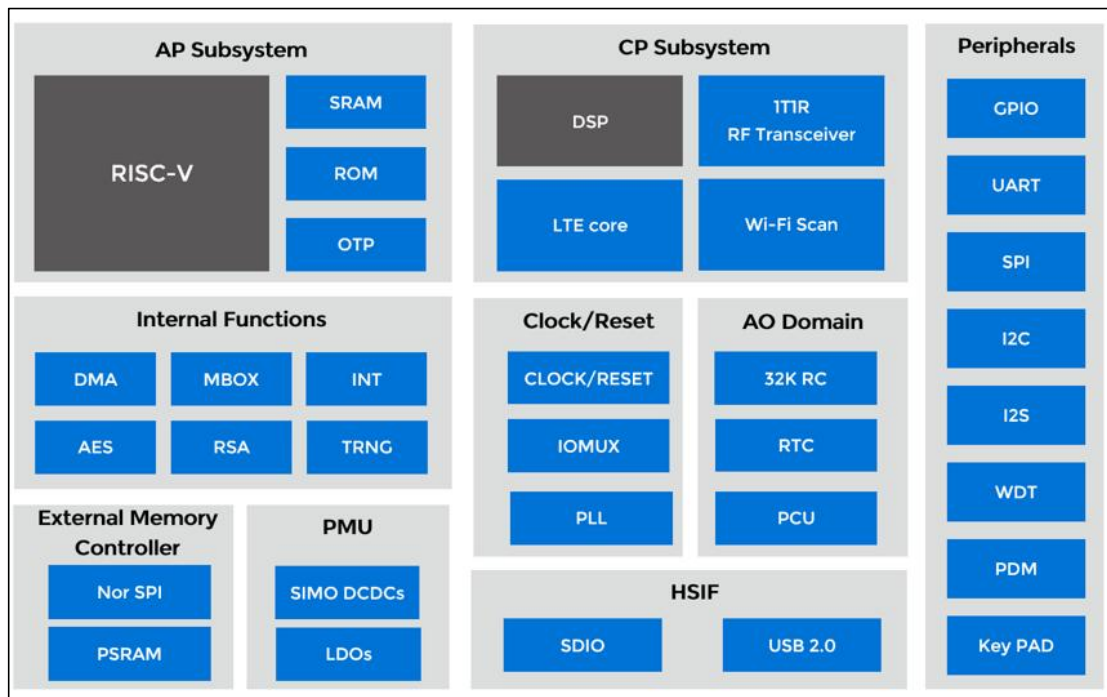# ECM9100-P Product Brief

ESWIN

ECM9100-P is a highly integrated Open-CPU Cat.1bis SoC. It complies with the 3GPP Rel15 Cat.1bis standard and provides a competitive 4G digital module chip solution.

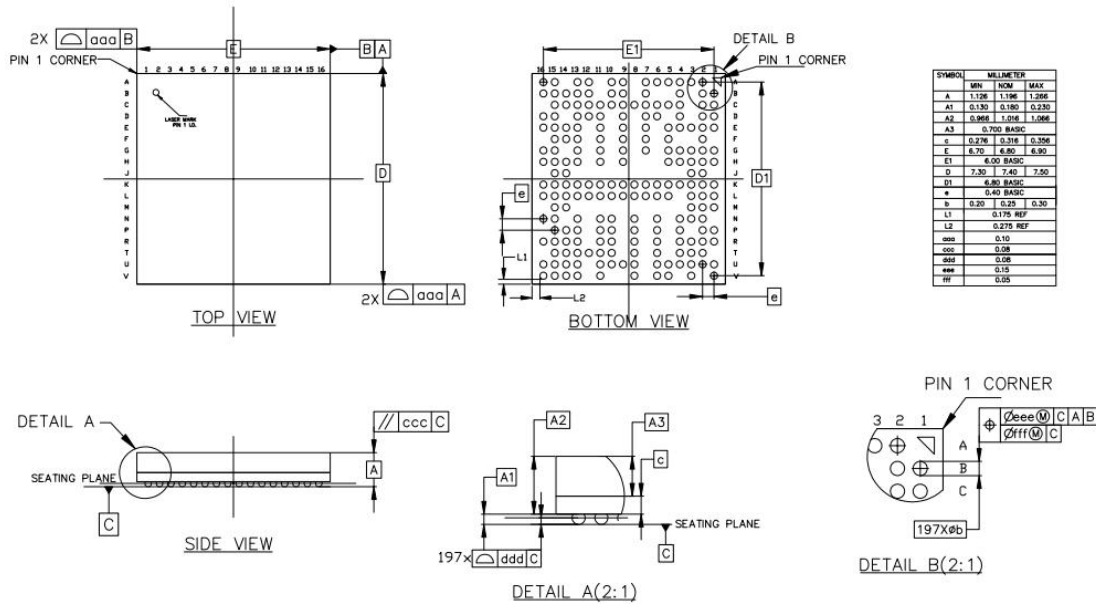**Block Diagram**

Features

- Processor
    - AP processor uses a RISC-V processor with up to 491MHz and supports TCM and Cache
    - DSP Processor processes the Cat1 physical layer and protocol stack and supports TCM and Cache
- Memory
    - 4MB NOR Flash
    - 8MB PSRAM
    - 32KB SRAM, support Light sleep, Deep sleep, and Shut down modes
    - 1K Bits OTP
- Peripherals
    - 64 × GPIOs
    - 1 × USB2.0
    - 3 × UARTs. UART0 supports flow control, and the interface rate can reach 3Mbps
    - 3 × SPIs
    - 3 × I²C
    - 2 × I²S
    - 1 x SDIO3.0

- - 4 × ADC
  - 6 × PWM
  - Keypad: 6 x 6
  - 2 × PDM, supporting digital voice playback
  - Support 0.3M@SPI, QVGA
- RF
  - FDD/TDD
  - 3GPP R15 Cat.1& Cat.1bis
  - FDD: B1/2/3/4/5/7/8/13/14/19/20/25/26/28/66/71
  - TDD: B34/38/39/40/41
  - Support BW: 1.4/3/5/10/15/20MHz
  - The maximum rate can reach 10Mbps (DL)/5Mbps (UL)
  - Support CAT1 RF transceiver
  - Support low-power consumption
  - RX supports high dynamic range
  - Support low phase noise Frac-N frequency synthesizers
  - Support direct transformation architecture
  - Low EVM
  - Support LDO
- Baseband
  - 3GPP Rel15 Cat.1bis
  - Maximum rate can be up to DL 10Mbps/UL 5Mbps
  - TDD/FDD
  - Supported bands: 1.4/3/5/10/15/20MHz
  - -98dBm Sensitivity @10M BW
  - 1.5mA @DRX 1.28s sleep mode
- Security
  - Secure boot
  - AES, RSA, and TRNG
- Voltage
  - Single power supply
  - Voltage range 2.8~5.5V
  - Interface voltage ranges from 1.8 to 3.3V, which can be configurable through the software
- Power Consumption
  - PSM 7µA
  - DRX@1.28s: 1.8mA
  - Support Light sleep/Deep sleep

ECM9100-P Product Brief

Packaging and Order Information

Dimension

ECM9100-P uses FCCSP packaging with 195 pins. The size is 6.8mm × 7.4mm.

Order Information

Product No.	Packaging	Operating Temperature
ECM9100-P	FCCSP BGA195	-40~+85℃

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