

ARM® Cortex™-M0 Configurable Array

The Mocha™-1 is an ARM Cortex-M0 based, via-configurable array. The Mocha-1 couples the low power, low-cost Cortex-M0 32-bit processor with 75,000 configurable ASIC gates, non-volatile memory, and a rich compliment of configurable analog resources to enable the rapid, low-cost development of complete mixed signal System-on-a-Chip (SoC) solutions.

Processor

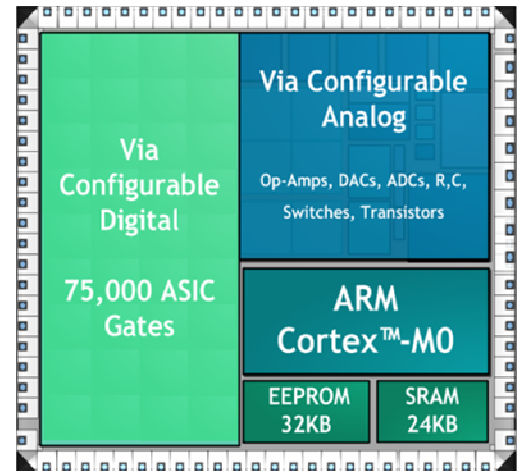
- **ARM Cortex-M0 32-bit processor**
- 25MHz operation
- 32 Kbytes of on-chip EEPROM program memory
- 24 Kbytes of SRAM
- Nested Vectored Interrupt Controller (NVIC)
- Watchdog Timer
- System and Clock Control
- Multiple Power Saving Modes
- Wake-Up Interrupt Controller (WIC)
- Serial Wire Debug
- PLL with Flexible System Clocking Options
- High-Speed GPIO
- APB & AHB Buses exposed to via-configurable digital section

Configurable Digital

- **75,000 Via-Configurable ASIC Gates**
- 99 Logic Tiles
 - 750 Equivalent 2-input NAND gate equivalents per logic tile
 - 128 x 16 2-Port SRAM per logic tile (2,048 bits)
- 202,752 bytes of distributed 2-Port SRAM
- 173 configurable digital I/O
- Isolated 3.3V digital power and ground

Configurable Analog

- **32+ Op-Amps and Configurable Arrays of Resistors, Capacitors, Transistors & Switches**
- 8 Fully-Differential Analog Tiles
- 4 Single-Ended, General Purpose Analog Tiles
- 4 Single-Ended, Low-Noise Analog Tiles
- 4 High-Speed Current-Steering DACs
- Band-Gap and Voltage Reference
- 53 configurable analog I/O
- Isolated 3.3V analog power and ground



Applications

- *Bluetooth Low Energy Sensors*
- *Portable Medical Devices*
- *Automatic Meter Reading*
- *Motor Control*
- *Intelligent Lighting*
- *Smart Grid Controllers*
- *Low Power Fitness Devices*
- *Combine 8/16 Micros and surrounding discrete analog*
- *FPGA + Analog Integration with 32-bit processing*
- *Cortex-M0 with Customizable Mixed-Signal Peripherals*
- *Sensor Processors*
- *Industrial Controllers*