STM32G4 SERIES
Mainstream MCUs

STM32G4 mixed-signal MCUs shaped for analog-rich applications

The STM32G4 series combines powerful Arm® Cortex®-M4 plus FPU and DSP capability with rich and advanced analog peripherals. It introduces two new mathematical accelerators (Cordic and Filtering), CAN-FD (Flexible Datarate), USB Type-C interface with Power Delivery including physical layer (PHY) and advanced security with safety features. Its new high-resolution timer V2.0 continues the Digital Power success story.

KEY FEATURES
- Performance
- Arm® Cortex®-M4 with FPU
- Up to 170 MHz CPU frequency
- Up to 213 DMIPS and 550 CoreMark® results
- Rich and advanced analog peripherals
- ADCs, op-amps, comparators, DACs
- Safety and security focus
- Full set of development and evaluation boards
- Code examples and software tools

KEY BENEFITS
- Reduced PCB size and BOM cost
- Mixed-signal SoC for a wide variety of control applications
- Dynamic energy efficiency

KEY APPLICATIONS
- Control applications
- Home appliances and E-bikes
- Air conditioning
- Industrial equipments
- Motor control applications (low end, high end)
- Servers, telecom equipment, and EV charging stations
- Instrumentation and measurement equipment

www.st.com/stm32g4
STM32G474 block diagram

Connectivity
- 4x SPI, 4x I²C, 6x UxART
- 1x USB 2.0 FS, 1x USB-C PD3.0 (+PHY)
- 3x CAN-FD
- 2x I²S half duplex, SA1

External interface
- FSMC 8-/16-bit (TFT-LCD, SRAM, NOR, NAND)
- Quad SPI

Accelerators
- ART Accelerator™
- 32-Kbyte CCM-SRAM

Math Accelerators
- Cordic (Trigo) Filtering

Floating Point Unit
Memory Protection Unit
Embedded Trace Macrocell
16-channel DMA + MUX
Up to 2x 256-Kbyte Flash memory / ECC
Dual Bank
96-Kbyte SRAM

STM32G4 Solutions
- Motor Control applications
  www.st.com/stm32-motor-control
- Digital power applications
  www.st.com/stm32-digital-power

STM32Cube Ecosystem
The STM32Cube ecosystem is a complete software solution for STM32G4 MCUs.
www.st.com/stm32cube

STM32G4 portfolio

Flash memory / RAM size (bytes)

| 512 K / 128 K | STM32G474CE | STM32G474RE | STM32G474ME | STM32G474VE | STM32G474PE | STM32G474QE |
| 256 K / 128 K | STM32G491CE | STM32G491RC | STM32G491ME | STM32G491VE |
| 128 K / 32 K  | STM32G431CB | STM32G431RB | STM32G431MB | STM32G431VB |
| 64 K / 32 K   | STM32G431CB | STM32G431RB | STM32G431MB | STM32G431VB |
| 32 K / 32 K   | STM32G431CB | STM32G431RB | STM32G431MB | STM32G431VB |

Legend:  Crypto AES-256 version is available on this package  *Available soon