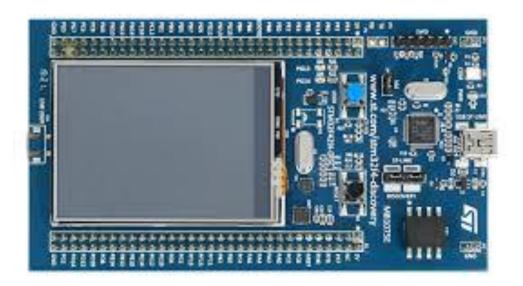
#### STM32F429I-DISC1 Discovery Kit – STM32F4 Development Board

The **STM32F429I-DISC1 Discovery Kit** is a powerful and cost-effective development board designed by **STMicroelectronics** to help engineers, students, and developers explore the capabilities of the **STM32F429 microcontroller**. Based on the **ARM Cortex-M4 core** running at **180 MHz**, this development kit provides exceptional performance, making it an ideal platform for embedded system development, prototyping, and product design.

Whether you are creating applications for **IoT**, **control systems**, **signal processing**, **or user-interface projects**, the STM32F429I-DISC1 delivers all the hardware and software tools you need to accelerate your development process.



#### **Powerful Microcontroller Performance**

At the heart of the STM32F429I-DISC1 is the **STM32F429ZIT6 MCU**, featuring:

- ARM Cortex-M4 CPU with Floating Point Unit (FPU)
- **180 MHz** maximum CPU frequency
- 2 MB Flash memory and 256 KB SRAM
- **DSP instructions** and advanced low-power modes

This powerful microcontroller ensures fast execution and efficient processing, allowing complex embedded applications to run smoothly while minimizing power consumption.

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STM32F429I-

DISC1 Discovery Kit – STM32F4 Development Board[/caption]

# **Comprehensive On-Board Features**

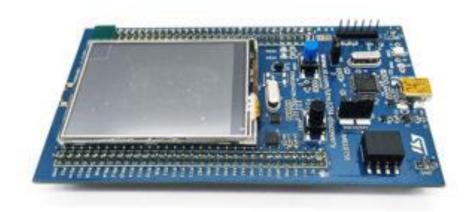
The STM32F429I Discovery Kit comes packed with a wide range of **integrated peripherals** that make it easy to test and develop without needing external hardware. Some of its key on-board components include:

- 2.4-inch QVGA TFT LCD display with capacitive touchscreen
- MEMS digital accelerometer and MEMS digital microphone
- Audio DAC with Class D speaker driver
- USB OTG micro-AB connector and user USB connector
- MicroSD card slot for external storage
- Reset and user buttons, plus four user LEDs

 ST-LINK/V2-A debugger/programmer (integrated) for easy firmware upload and debugging

With these components, the board allows developers to quickly experiment with multimedia, graphics, sensors, and user-interface applications.

[caption id="attachment\_108317" align="aligncenter" width="447"]



STM32F429I-DISC1

Discovery Kit – STM32F4 Development Board[/caption]

# **Connectivity and Expansion Options**

The STM32F429I-DISC1 board offers a rich set of **connectivity options** that allow easy integration with external modules and devices. It includes:

- USB OTG for host/device functionality
- MicroSD card interface for data logging
- External expansion headers compatible with Arduino™ and ST morpho connectors, providing access to most of the microcontroller's I/O pins.

This makes it easy to connect additional sensors, displays, motors, or communication modules for more complex project development.

### **Software Development and Support**

STMicroelectronics provides extensive **software tools and libraries** to help you get started quickly. The board is fully supported by the **STM32CubeIDE** and **STM32CubeMX**, which simplify firmware development through graphical configuration and code generation.

You can also use popular third-party IDEs such as **Keil MDK, IAR Embedded Workbench, or Atollic TrueSTUDIO**.

Example projects and firmware packages are available for free, making it easier to learn and experiment.

## **Ideal Applications**

Thanks to its high performance and integrated peripherals, the STM32F429I Discovery Kit is suitable for a wide range of applications, including:

- IoT device prototyping
- Human Machine Interface (HMI) development
- Multimedia and graphics applications
- Sensor fusion and motion control
- Audio processing and signal analysis
- Educational and training purposes

This versatility makes it a go-to platform for engineers, researchers, and students in embedded systems and electronics.

### **Key Features Summary**

- Microcontroller: STM32F429ZIT6 (ARM Cortex-M4 @ 180 MHz)
- Memory: 2 MB Flash, 256 KB RAM
- Display: 2.4" QVGA TFT LCD touchscreen
- Connectivity: USB OTG, MicroSD slot
- On-board peripherals: MEMS accelerometer, microphone, audio DAC, speaker driver
- Debugging: ST-LINK/V2-A on board

- Expansion: Arduino™ and ST morpho connectors
- Power Supply: USB powered or external 5V

## Why Choose STM32F429I-DISC1?

The STM32F429I-DISC1 offers an **affordable, all-in-one development environment** that combines power, flexibility, and ease of use. With its high-speed processor, built-in display, and wide peripheral set, it enables developers to test ideas and bring projects to life faster. The included ST-LINK programmer makes development straightforward, and the active STM32 community ensures continuous support and learning resources.

Whether you're a professional engineer, university student, or embedded systems enthusiast, this board delivers excellent value and performance for advanced microcontroller development.