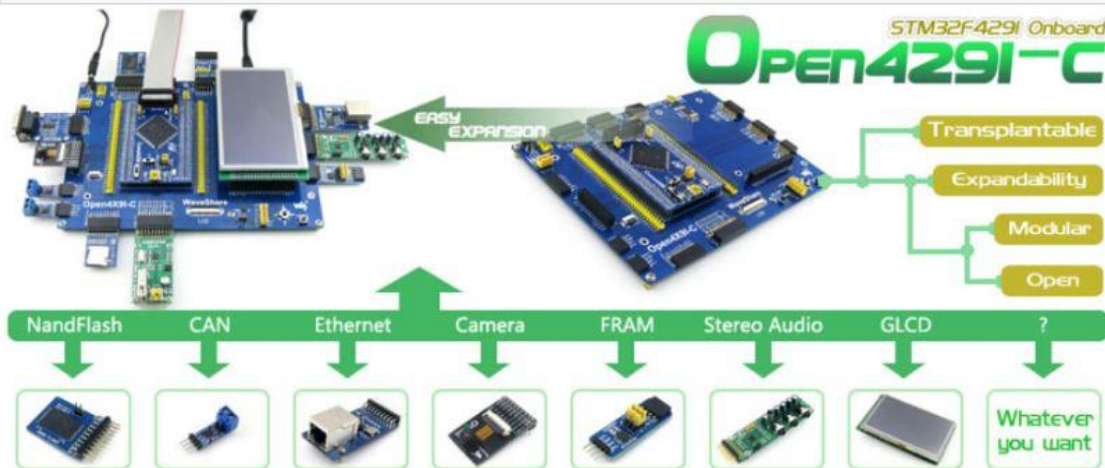


Waveshare STM32 Development Boards Kit for Open429I-C - Blue



STM32 development board designed for STM32F429I, features the STM32F429IGT6 MCU, and integrates various standard interfaces, pretty easy for peripheral expansions.

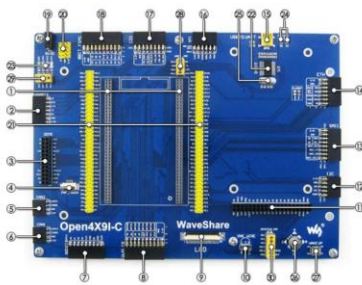


Overview

Open429I-C is an STM32 development board designed for the STM32F429IGT6 microcontroller, consists of the mother board and the MCU core board Core429I.

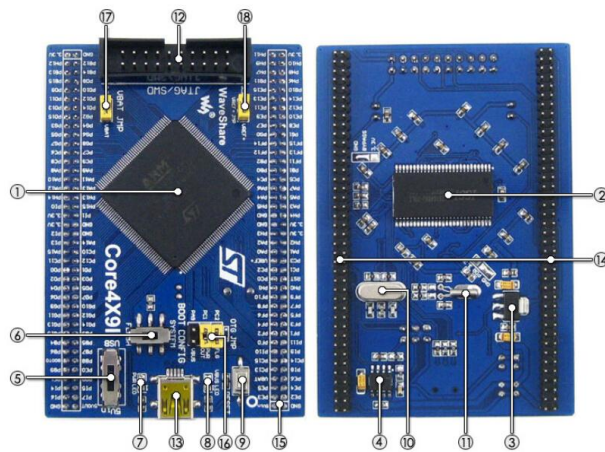
The Open429I-C supports further expansion with various optional accessory boards for specific application. The modular and open design makes it the ideal for starting application development with STM32 series microcontrollers.

What's on the mother board



1. **MCU core board connector:** for easily connecting the Core429I
2. **USART3 interface:** easily connects to RS232, RS485, USB TO 232, etc.
3. **DCMI interface:** for connecting camera
4. **Capacitive touch panel interface:** for connecting capacitive touch panel
5. **CAN2 interface:** for connecting CAN modules
6. **CAN1 interface:** for connecting CAN modules
7. **SDIO interface:** for connecting Micro SD module, features much faster access speed rather than SPI
8. **ULPI interface:** for connecting high-speed USB peripheral (the STM32F429I integrates USB HS controller without any PHY device)
9. **LCD interface 1:** for connecting 7inch LCD
10. **ONE-WIRE interface:** easily connects to ONE-WIRE devices (TO-92 package), such as temperature sensor (DS18B20), electronic registration number (DS2401), etc.
11. **LCD interface 2:** for connecting 4.3inch LCD
12. **I2C2/I2C3 interface:** easily connects to I2C peripherals such as I/O expander (PCF8574), EEPROM (AT24Cxx), etc.
13. **SAI1 interface:** for connecting audio modules like UDA1380 module
14. **Ethernet interface:** for connecting Ethernet modules
15. **USB connector:** USB to UART via the onboard convertor PL2303
16. **SPI1/SPI2 interfaces:**
 - easily connects to SPI peripherals such as DataFlash (AT45DBxx), SD card, MP3 module, etc.
 - easily connects to AD/DA modules (SPI1 features AD/DA alternative function)
17. **I2S2/I2S3/I2C1 interface:** easily connects to I2S peripherals such as audio module, etc.
18. **8-bit FMC interface:** easily connects to peripherals such as NandFlash
19. **5V DC jack**
20. **5V/3.3V power input/output:** usually used as power output, also common-grounding with other user board
21. **MCU pins connector:** all the MCU I/O ports are accessible on expansion connectors for further expansion
22. **PL2303:** USB to UART convertor
23. **LEDs:** convenient for indicating I/O status and/or program running state
24. **PL2303 TX-LED / RX-LED**
25. **12MHz crystal:** for PL2303
26. **Joystick:** five positions

What's on the Core429!



1. **STM32F429IGT6**: the high performance STM32 MCU which features:

- Core: Cortex-M4 32-bit RISC
- Feature: single-cycle DSP instructions
- Operating Frequency: 180MHz, 225 DMIPS/1.25 DMIPS/MHz
- Operating Voltage: 1.8V-3.6V
- Package: LQFP176
- Memories: 1024kB Flash, 256+4kB SRAM
- MCU communication Interfaces:
 - 6 x SPI, 4 x USART, 4 x UART, 2 x I2S, 1 x SAI, 3 x I2C
 - 1 x FMC, 1 x SDIO, 2 x CAN
 - 1 x LCD-TFT
 - 1 x USB 2.0 HS/FS controller (with dedicated DMA)
 - 1 x USB HS ULPI (external PHY required)
 - 1 x 10/100 Ethernet MAC
 - 1 x 8 to 14-bit camera interface
- AD & DA converters: 3 x AD (12-bit, 1 μ s, shares 24 channels); 2 x DA (12-bit)
- Debugging/Programming: supports JTAG/SWD interfaces, supports IAP

2. **IS42S16400J**: SDRAM 1 Meg Bits x 16 Bits x 4 Banks (64-MBIT)

3. **AMS1117-3.3**: 3.3V voltage regulator

4. **MIC2075**: onboard USB power management device

5. **Power supply switch**, powered from 5Vin or USB connection

6. **Boot mode selection**, for configuring BOOT0 pin

7. **Power indicator**

8. **VBUS LED**

9. **Reset button**

10. **8M crystal**