Core429I, STM32F4 Core Board

Overview

Core429I is an STM32 MCU core board designed for **STM32F429IGT6**, supports further expansion. It is ideal for starting application development with STM32F family.

- Minimal ready-to-run system, integrates clock circuit, USB power management, USB connector, etc.
- Onboard 64M Bit SDRAM
- All the I/O ports are accessible on the pin headers
- JTAG/SWD programming/debugging interface
- **2.0mm** header pitch, allowed to be plugged-in your application board

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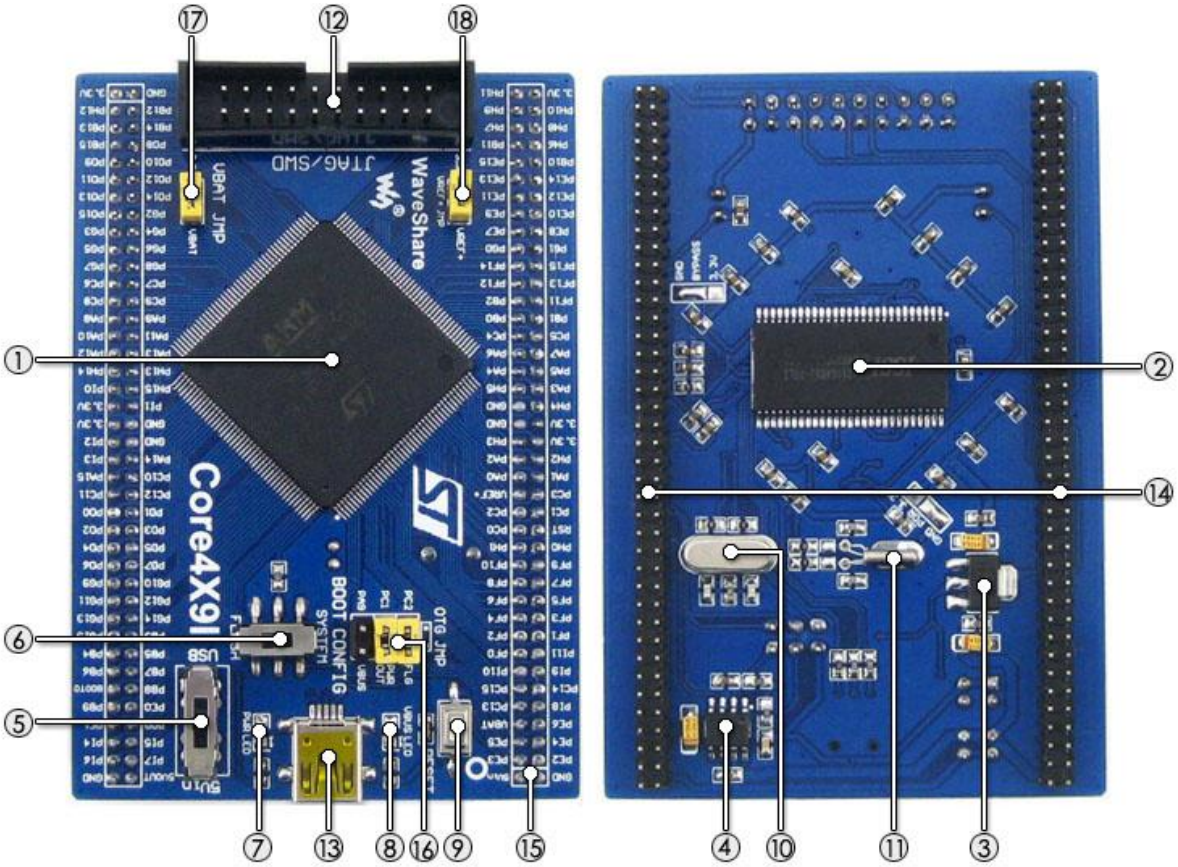
What's on the Core429I



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, 1μs, 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
11. 32.768K crystal, for internal RTC with calibration
12. JTAG/SWD interface: for debugging/programming
13. USB connector, supports Device and/or Host
14. MCU pins expander, VCC, GND and all the I/O pins are accessible on expansion connectors for further expansion
15. 5Vin pinheader, 5V power supply is required when using USB HOST/OTG
16. USB OTG/HOST jumper
    - short the jumper when using USB OTG/HOST
    - open the jumper to disconnect from related I/O port
17. VBAT selection jumper
    - short the jumper to use system power supply
    - open the jumper to connect the VBAT to external power, such as battery
18. VREF selection jumper
    - short the jumper to connect VREF+ to VCC
    - open the jumper to connect VREF+ to other custom pin via jumper wire

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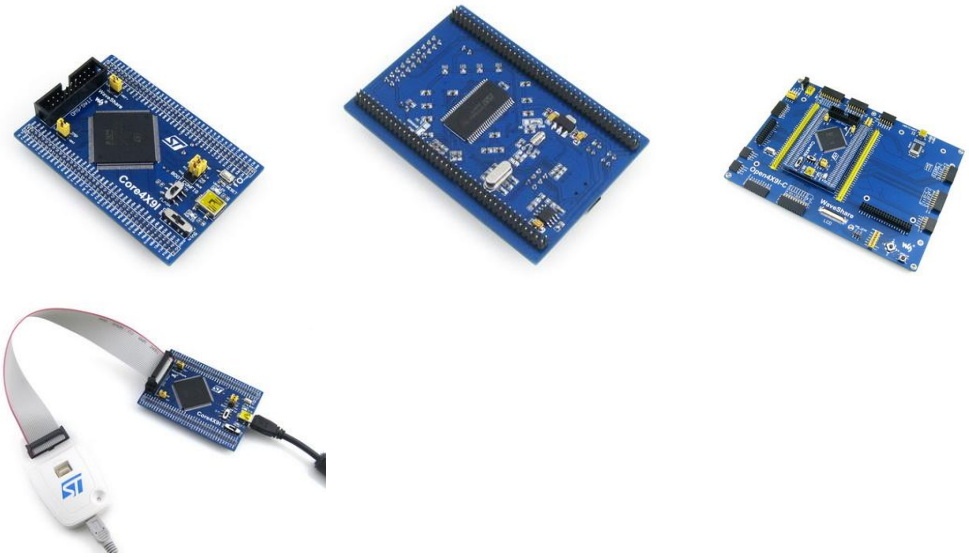
Photos



Note:
Mother board or programmer/debugger in the photo is NOT included in the price.
Core429I provides JTAG/SWD debugging interface, yet does NOT integrate any debugging function, a debugger is required.

JTAG/SWD interfaces

The figure 1, and 2 show the header pinouts of JTAG/SWD interface

Figure 1. JTAG Header Pinout

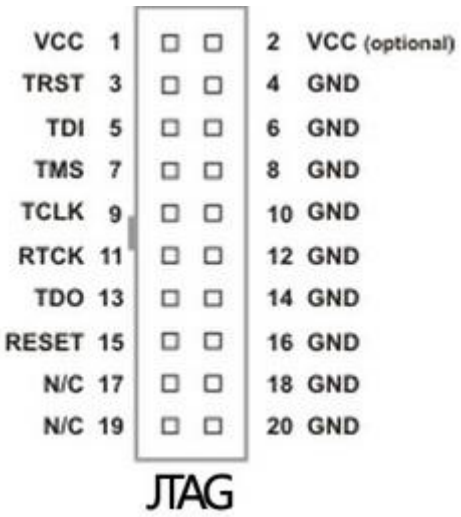
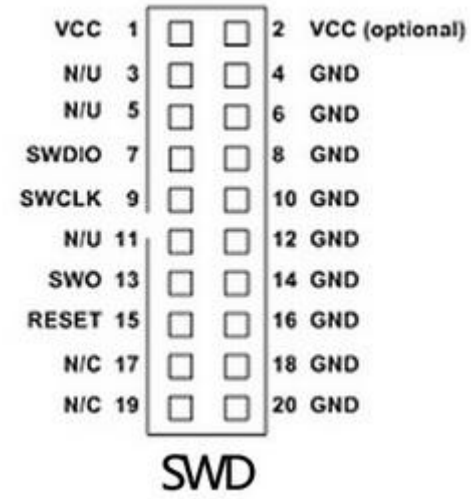


Figure 2. SWD Header Pinout



Development Resources

- Schematic
- Demo code (examples in C, µC/OS-II)
- STM32 development software (KEIL etc.)
- STM32 datasheets
- STM32 development documentations

Wiki: www.waveshare.com/wiki/Core429I

Dimensions