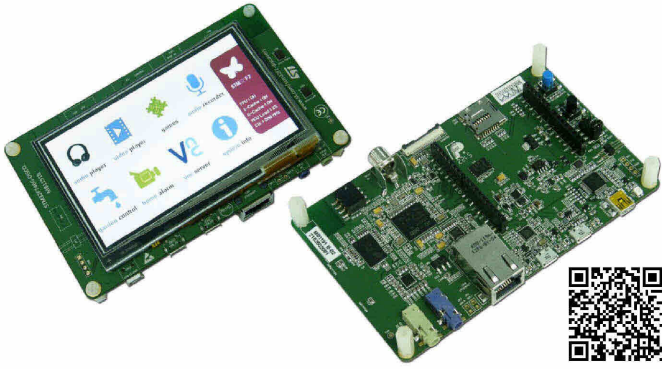## STM32F746G-DISCO
(C-YA-A-00206) ***

- This 32 BIT MICROCONTROLLER Development Kit with 4.3" TFT LCD Display in the series of STM32F746; this inexpensive board can be developed by its own via ST-LINK V2 and provides resources on board.

SPECIFICATIONS of STM32F746G-DISCO

- Use STM32F746NGH6, 32 BIT ARM CORTEX-M7, 1 MBYTES FLASH MEMORY, 340 KBYTES RAM, PACKAGE TYPE BGA216
- Provide ST-LINK V2 to be connected via USB MINI TYPE B
- 4.3" LCD with 480x272 DOT LCT-TFT with CAPACITIVE TOUCH SCREEN
- Have DCMI CAMERA CONNECTOR
- Have AUDIO LINE IN and LINE OUT JACK
- Have 2 MICROPHONES as ST MEMS
- Have 1 SW. and 1 SW.RESET
- Have 128-MBIT (16M x 8) FLASH MEMORY
- Have 128-MBIT (4M x 32) SDRAM
- Have MICRO SD CARD SOCKET
- Have USB OTG HS WITH MICRO-AB CONNECTOR
- Have USB OTG FS WITH MICRO-AB CONNECTOR
- Have RJ45 ETHERNET IEEE-802.3-2002
- Use Connector I/O under Standard of ARDUINO UNO V3
- Use 5VDC POWER SUPPLY from USB ST LINK, USB FS, USB HV, VIN from
- Connector ARDUINO and Connector +5V
- Provide DEMO Program, Example Programs, and Program Development; please visit and DOWNLOAD from Link: www.st.com/stm32f7-discovery

STM32F429I DISCOVERY
(C-YA-A-00184) ***

This 32 BIT MICROCONTROLLER Development kit is in the series of STM32F429/439 from ST; this inexpensive Board provides ST-LINK V2 on board that is ready to develop. Board is divided into 2 parts as follows;
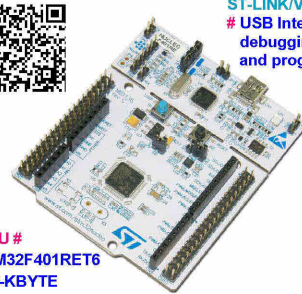
1. ST-LINK V2 : It is used to Download and Debug into MCU STM32F429ZIT6 on board; this ST-LINK is used through PORT USB by Connector USB MINI-B on board (CABLE USB TYPE A TO B MINI is not included in the package (OPTION)).
- Connector 6PIN SWD is externally connected to DEBUG and DOWNLOAD
2. STM32F429
- Use MCU No.STM32F429ZIT6 32 BIT ARM CORTEX-M4F, 2 MB FLASH MEMORY, 256 KB RAM, LQFP144
- Use +5VDC from Connector USB or external POWER 5V or 3V
- 2.4" QVGA TFT LCD with TOUCH SCREEN ON BOARD
- SD RAM 64 MBITS
- SENSOR 3-AXIS DIGITAL OUTPUT No.L3GD20
- 6-LED, 2-SW for use and RESET
- USB OTG (CONNECTOR MICRO-AB)
- 2 of CONNECTOR PIN HEADER 2.54mm MALE 32 x 2 under PCB for external connection

NUCLEO-F401RE   (C-YA-A-00185) ***

This STM32 Development Kit from ST uses MCU in the series of STM32F4; this inexpensive board has a part of DEBUG, DOWNLOAD and MCU on board.
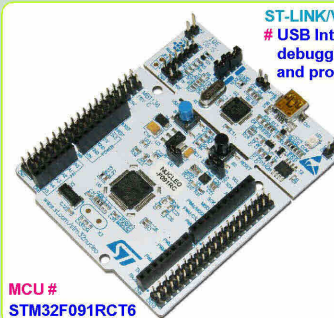

ST-LINK/V2-1 # USB Interface for debugging and programming

MCU # STM32F401RET6 512-KBYTE 32 BIT MCU

- In the part of DOWNLOAD and DEBUG, it is ST-LINK V2-1 to download program and debug through PORT USB MINI; moreover, there is Connector SWD to download/debug MCU outside board.
MCU BOARD
- Use MCU No.STM32F401RET0, 32 BIT ARM CORTEX M4, 512 KBYTE FLASH, 96 KBYTE RAM, LQFP64 TYPE.

- There are 2 types of Connector I/O as follows;
  - Arduino UNO 32 PIN
  - 2 of STMICRO MORPHO is PIN HEADER 19x2; there is PIN HEADER both on PCB and under PCB.
- Use Power Supply from Connector USB or connect with external Power Supply 3.5V, 5V, 7-12VDC
- 3-LED, 2-SW for use and RESET
- PCB size: 7.00 x 8.25 cm.
- Connector USB MINI Type can be connected with computer (This CABLE USB is not included in the package (OPTION); CABLE USB TO 5P MINI (A-CB-A-00044))

NUCLEO-F091RC   (C-YA-A-00208) ***

This STM32 Development Kit from ST is in the series of Cortex-M0 MCU; this inexpensive board has a part of DEBUG and DOWNLOAD on Board.

ST-LINK/V2-1 # USB Interface for debugging and programming

MCU # STM32F091RCT6

- In the part of DOWNLOAD and DEBUG, it is ST-LINK V2-1 to download program and debug through PORT USB MINI; moreover, there is Connector SWD to download/debug MCU outside board.
- Use inexpensive MCU Cortex-M0 No.STM32F091RCT6, 256 KBYTE FLASH, 32 KBYTE ARM, and including CAN, I2C, IRDA, LIN, SPI, UART, A/D 12 BIT, D/A 12 BIT, 52 I/O

- There are 2 types of Connector I/O as follows;
  - ARDUINO UNO 32 PIN
  - 2 of ST MICRO as PIN HEADER 19x2; there is PIN HEADER both on PCB and under PCB
- Use Power Supply from Connector USB or connect with external Power Supply 3.5V,
- 5V, 7-12VDC through PIN HEADER
- 3-LED, 2-SW for use and RESET
- PCB size: 7.00 x 8.25 cm.
- Connector USB MINI Type can be connected with computer (This CABLE USB is not included in the package (OPTION); CABLE USB TO 5P MINI (A-CB-A-00044))

STM32L152C-DISCO
(C-YA-A-00207) ***

This STM32L152C-DISCO is 32BIT MICROCONTROLLER Development Kit that replaces STM32L DISCOVERY; it changes MCU number to increase memory capacity from 128 KB to 256 KB instead. Other specifications are the same.
32 BIT ARM CORTEX-M3 as ULTRA-LOW-POWER consists of 2 main parts as follows;
1.Test Board or Board consists of
- MCU No.STM32L152RCT6, 256 KB FLASH MEMORY, 32 KBYTE RAM, 8 KBYTE EEPROM, RUN 32 MHz, IC TYPE 64 PIN LQFP
- 6-DIGIT LCD DISPLAY 28 PIN DIP 24 (24 SEGMENT, 4 COMMANDS)
- 4-LED, LD1 is used with USB, LD2 POWER 3.3, LD3 and LD4 come from PORT
- LINEAR TOUCH SENSOR or 4 TOUCH SW
- PIN HEADER 28x 2 is externally connected from MCU
2. ST-LINK
- Use MCU No.STM32F103 and connect with computer PC through PORT USB (Connector of Board is USB MINI Type)
- Do IN-CIRCUIT DEBUGGER to MCU on board directly though USB PORT, without using any development kit. Moreover, it can connect Connector SWIM to external Board MCU.

(* This product is imported, there is no any warranty. ***)**