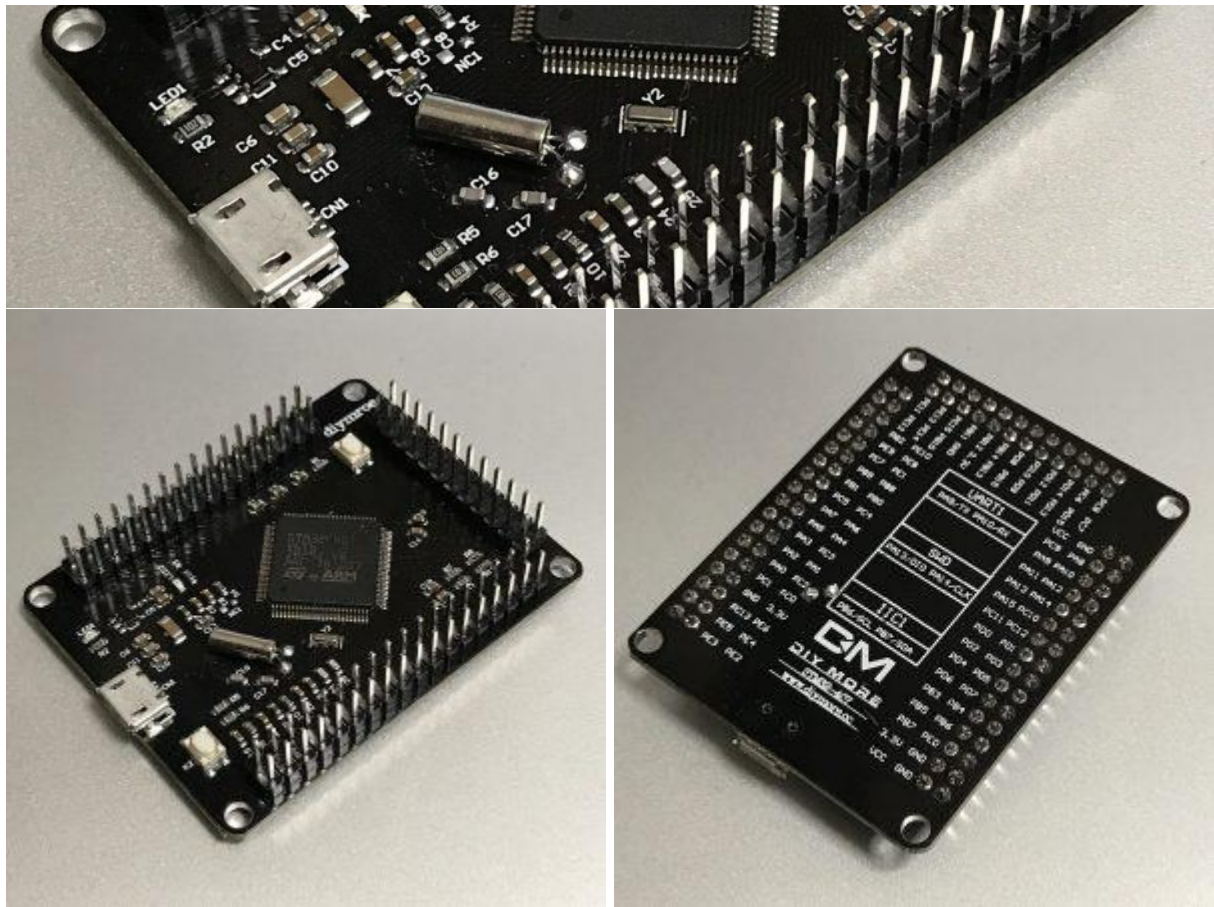# DIY More STM32F407VGT6 board

STM32F407VGT6 board of the brand called DIY MORE.

Purchased by looking at the price cut by 1,000 yen.

Is it because cheap is speckin simple?

Because it is described below, is there a little problem?

Basically this board has SD card slot, battery slot for RTC, additional Flash or RAM, but this board is for RTC crystal only.

SWD (JLINK) or UART port is also provided separately, but that is also nothing.

Very simple.

There are two LEDs for power supply and user, two buttons also reset and two users.

This is appreciated (sometimes unexpected)

STM32F407VGT6 of the on-board MCU has nearly the same specification as common VET 6, but there is 1 MB of FLASH (512 kB of VET 6).

After that, CPU clock 168 MHz, SRAM, 192 MB.

It is ARM Cortex - M4.

The URL was written behind the board, but I could not connect to that site.

I guess there is no brand anymore.

I sometimes see the module in the name of DIY MORE, but since it is made in China, I do not know whether it is genuine or not.

I managed to get the circuit diagram, but there is the name of CJMCU there.

Strictly speaking, URL of official store of TajBao of CJMCU is written, and it is possible to connect there.

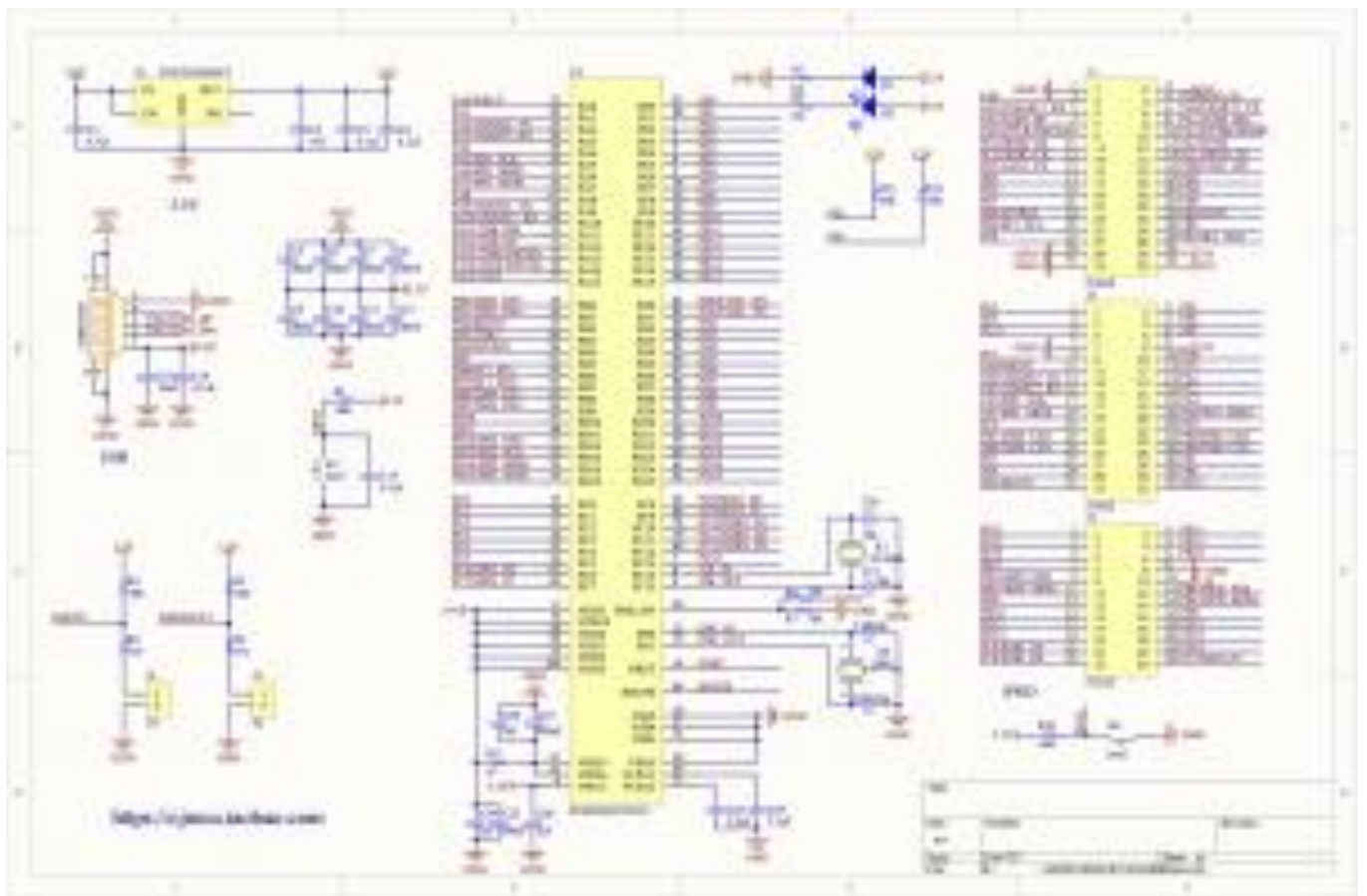But there is no handling of this board.

The origin is unknown.

There are no particular problems such as making and looking.

It is about the board of VCC - GND.COM size.

Small.

Since there are holes in the four corners, you can attach legs to the board so it's easy to use in experiments.
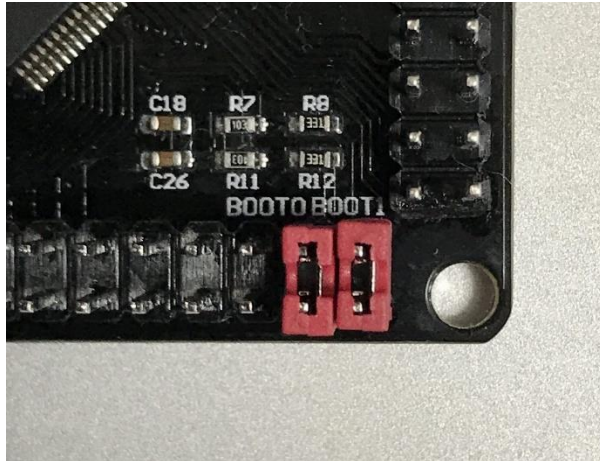
However, as I said earlier, there is a problem. I will post the circuit diagram that I got at first.

First of all, it deals with the pin of Boot 0 / Boot 1.
If it is in the normal state it will be pulled up and if you insert a jumper pin for the picture below it will fall to GND.

It seems to be common to drop it to GND usually, so it may be a little troublesome.

The biggest problem is around UBS. USB D- / D + are directly connected to PA11, PA12 respectively.

There is no even protection resistance.

It seems that it is assumed to be used as OTG or host.

I personally want to use Arduino as a serial port, so this is a problem.

Although I am trying to use it as STM32 Duino, although i can write a program, although it is connected to a Mac, it turns on, but it is not recognized when the port is a serial port.

For now, it should work if you pull up D + at around 1.5 kB.

I am afraid that there are no protective resistors around 22 to 27 Ω which are normally in the data line in series, but I am afraid that if I do not use heavy usage I will manage somehow, and the following photograph I saw the resistance attached externally.

※ I got the information that it is not necessary to pull up by comment. If you enable UBS pin pull-up with CubeMX, it seems that external connection is not necessary.

If it is STM32GENERIC it will probably work if you spew out the settings and create variant by yourself. Is it ok to rewrite the configuration file with libmaple?
(It is unknown because it does not investigate.)

It seems that it is not recommended to use it as an ant but to use it as the same as other boards.

Depending on the development board, there is also a case where the pull-up is a switch (such as the board of the GD32F103 introduced earlier).

For now, the UBS port now recognizes it. I made Arduino and confirmed that the serial port became visible and it worked.

I thought whether it was smarter to make something like UBS cable embedded with protective resistance and pull up resistance, but in the meantime for now.

I think that it is good to handle the F 407 series, or VCC - GNC.COM board or common name Black F 407 is good, but since this board is cheaper than that, I think that it would be fine if you develop using CubeMX or SW 4 STM .

It may be good to just buy it if you find it because only inventory may be circulating.

Varianti tjeter I programimit

* VDD_TARGET (ST-LINK SWD F411) <-> VCC (F407)
* SW_CLK (ST-LINK SWD F411) <-> PA14 (F407)
* GND (ST-LINK SWD F411) <-> GND (F407)
* SWDIO (ST-LINK SWD F411) <-> PA13 (F407)
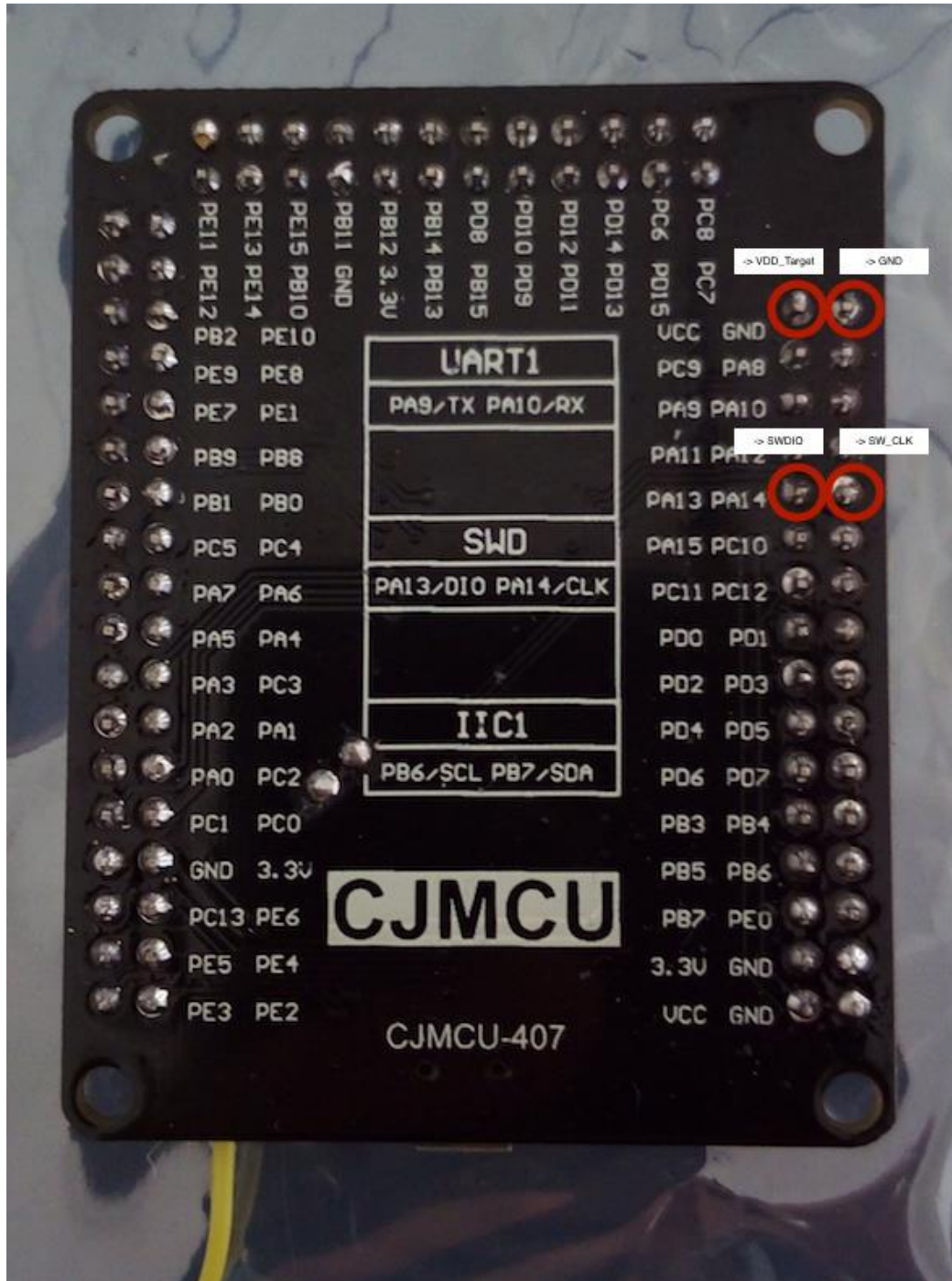
As there is no pin NRST on the CJMCU board, a cable (yellow on the image) was soldered to the reset button.

So, NRST pin of ST-LINK SWD F401 is connected with this yellow cable on F407.

My first question would be is it normal that there is no NRST pin.

To power on the chip I use micro USB cable.

A quick dive in to ebay CJMCU-407 board with STM32F407VG

I recently came across a small board with stm32f407vg with all necessary components to use in DIY projects. In this post i would like to share some of the details esp , the pin connections which will be useful for others. I found this board useful in some of my SDR (software defined radio) projects and some audio projects (using DSP)

This board is shown in the figure below and can be easily spotted on ebay, taobao and other sites
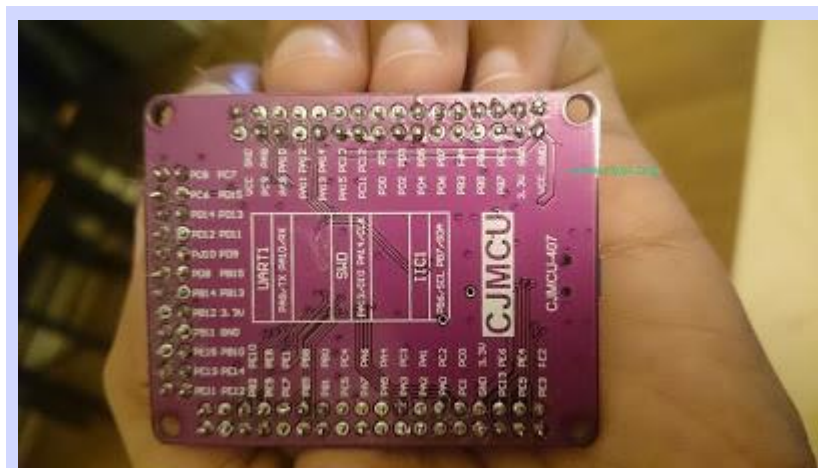

CJMCU407 with stm32f4

 A schematic found on tao bao is shown below

It is a useful board and can be easily programmed with an stlink or comaptible programmers (https://www.riyas.org/2017/02/quickly-getting-started-with-stm32f4xx.html)

PIN CONNECTIONS FOR CJMCU407

For a quick refernce of the pins, shown below are the bottom view of the board and the corresponding pin mappings
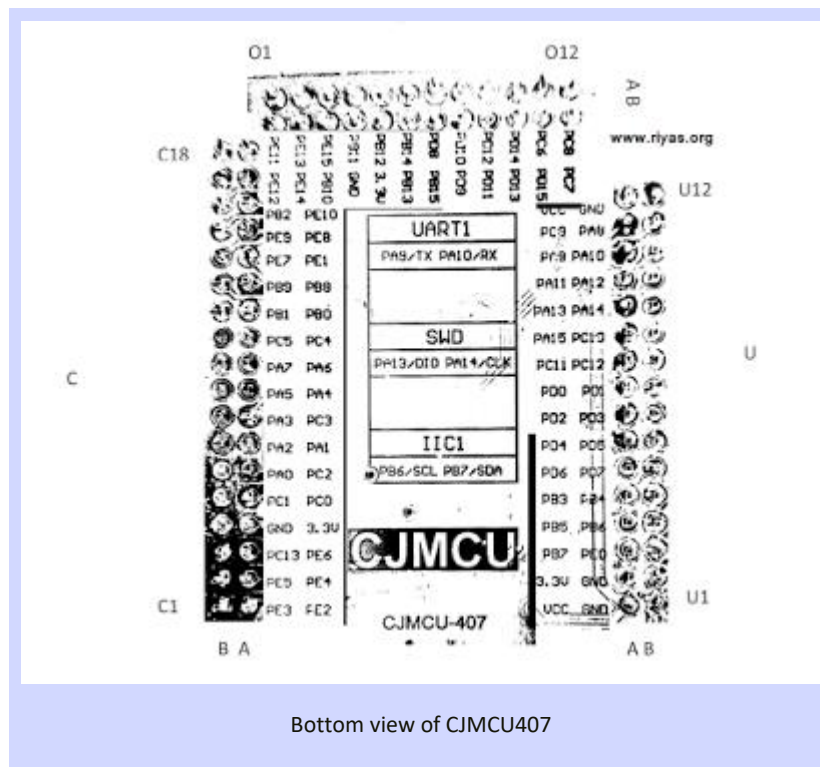
Bottom view of CJMCU407

PIN MAPPING

USAGE: C (row of pins close to the letter C of CJMCU) , U (close to U of cjmcu text) and O (outer side) indicates the sides on the board. Note that the C side of the board has 18X2 (total 36) pins where as the U side has 24 pins and O side has 24 pins.

The row of pins close to the edje of the board is marked B and the inner row as A

Example: PAo on the stm32f4 is available at C6a which means close to C side , 6th pin in the inner row (ie away from the edge of the board)

I keep a printout of this for quick hookups without messing and turning the board and reading the small prints. on the bottom of the board

PA0	C6a	PB0	C12b	PC0	C5b	PD0	U9b	PE0	U3a
PA1	C7b	PB1	C12a	PC1	C5a	PD1	U9a	PE1	C14
PA2	C7a	PB2	C16a	PC2	C6b	PD2	U8b	PE2	C1b
PA3	C8a	PB3	U5b	PC3	C8b	PD3	U8a	PE3	C1a
PA4	C9b	PB4	U5a	PC4	C11b	PD4	U7b	PE4	C2b
PA5	C9a	PB5	U4b	PC5	C11a	PD5	U7a	PE5	C2a
PA6	C10b	PB6	U4a	PC6	O11a	PD6	U6b	PE6	C3b
PA7	C10a	PB7	U3b	PC7	O12b	PD7	U6a	PE7	C14
PA8	U15a	PB8	C13	PC8	O12a	PD8	O7a	PE8	C15
PA9	U14b	PB9	C13	PC9	U15b	PD9	O8b	PE9	C15
PA10	U14a	PB10	O3b	PC10	U11a	PD10	O8a	PE10	C16b
PA11	U13b	PB11	O4a	PC11	U10b	PD11	O9b	PE11	O1a
PA12	U13a	PB12	O5a	PC12	U10a	PD12	O9a	PE12	O1b
PA13	U12b	PB13	O6b	PC13	C3a	PD13	O10b	PE13	O2a
PA14	U12a	PB14	O6a	PC14		PD14	O10a	PE14	O2a
PA15	U11b	PB15	O7b	PC15		PD15	O11b	PE15	O3a

www.riyas.org

LED BLINKY
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To test the board, i hooked up the stlink, and used openocd to load the GPIO toggle firmware and connected a pair of led.

USB OTG	FS Mode	Description
Data +	PA12	USB Data+ line
Data –	PA11	USB Data- line
ID	PA10	USB ID pin
VBUS	PA9	USB activate

| VBUS_EN | PC0 | ???? |