

# Core 4 Discoveryboard STM32F407VGT6



this is one essential part for my [triggermatrix5](#)  
i need a core pcb which is aviable in Europe, and uses the stm32f407vgt6 chip, which has 1MB ram...

# Schematic

[core4disc-schematic.pdf](#)



i think there is a error - PB2 is not connected to the CORE MODULE



## Building and BOM

parts off it is pick and place the other part is handsolder

### BOM

the LCSC Parts are done with the Pick and place - so no need to order...

Comment	Designator	LCSC	Lot
SN74HC541	IC1	C116811	1
1K	Ra1,Rb1,Rc1,R5,R6,R7,R8,R24	C11702	8
J10B	GPIO1	C124391	1
AIN	J5A/B1	C124391	1
DIN/DOUT	J8/1	C124391	1
MCP3208	IC2,IC3	C16939	2
10	R17	C17902	1

Comment	Designator	LCSC	Lot
6N138-SMD	O1,O2,O3,O4	C188666	4
Pin-Header-2x4-SMD	AIN0,AIN1	C192300	2
J4A+B	IIC1	C192300	1
J15A	JA15	C192300	1
J10B	JB10	C192300	1
-	Midi1	C192300	1
LED	LED1	C2286	1
220	R1-4,R13-21	C25091	12
2K2	R22,R23,R25,R26	C25879	4
4K7	R9,R10,R11,R12	C25900	4
100n	C4,C6,C7,C8,C10,C12	C307331	6
10uF	C1-5,C9,C11,C13-15	C440198	9
uSD-Molex	SD1	C585350	1
1N4148W	D1,D2,D3,D4,D6	C81598	5

The Mouser parts that have to be soldered by hand - you have to order them on your own...:

Comment	Designator	MouserNumber	Lot
PW2	TSR_2-2450	495-TSR2-2450	1
USB1	USB-B-Socket	538-67068-8000	1
D5	1N5818	583-1N5818-T	1
Midi1	-	649-1012938390801ALF	1
Midi-IN1-2, Midi-OUT1-2	Midi-KCDX-5S-S2	806-KCDX-5S-S2	4
DISC1	STM32F4DISCOVERY	511-STM32F407G-DISC1	1
PW1	PJ-079BH	490-PJ-079BH	1
SW1-3	Power	611-1101M2S4AV2BE2	3
USB3	USB_A-Molex	538-89485-8000	1

## Order-List

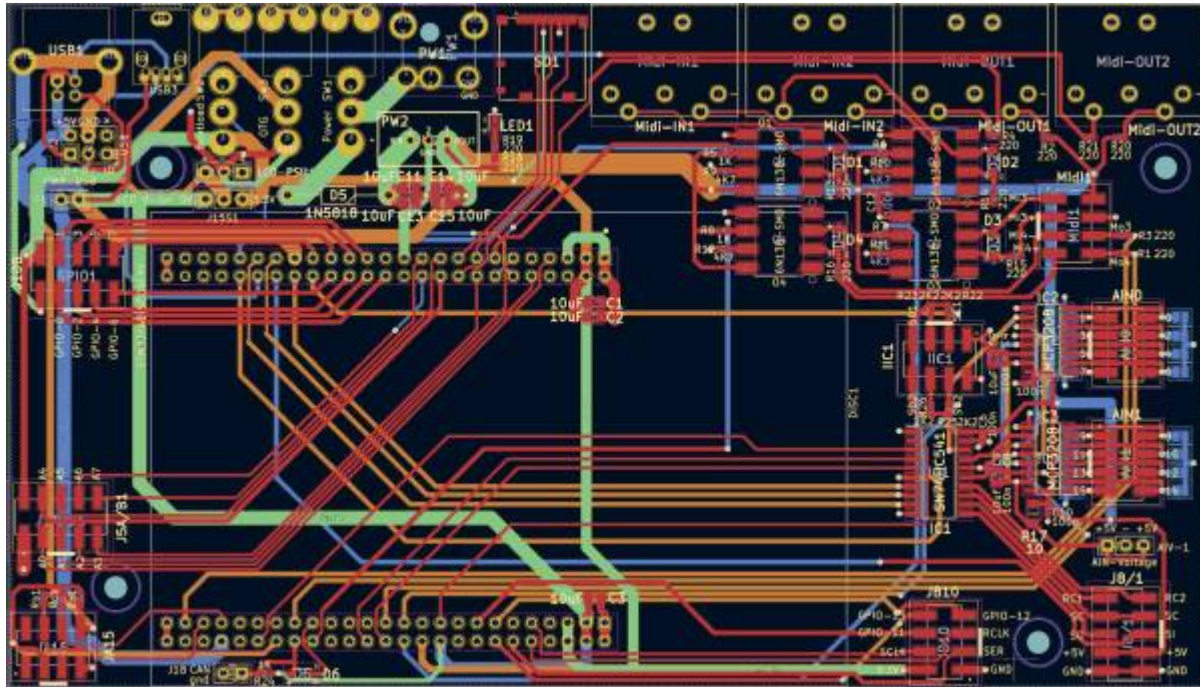
copy following list into this [mouser.com-Link](https://www.mouser.com)

```
495-TSR2-2450|1
538-67068-8000|1
583-1N5818-T|1
649-1012938390801ALF|1
806-KCDX-5S-S2|4
511-STM32F407G-DISC1|1
490-PJ-079BH|1
611-1101M2S4AV2BE2|3
538-89485-8000|1
```

### Order from Reichelt:

2x [2x25Pin Female 2,54mm Heades](#)

- 1x 1x20Pin Male 2,54mm Header
- 1x 2x10Pin Male 2,54mm Header
- 5x 2x5Pin FeMale 2,54mm Header
- 4x 2x4Pin Female 2,54mm Header



## Software

1. If the Discoveryboard is a virgin-one then upload the bootloader [via stm-utility](#)
2. Upload the [Bootloader](#)
3. Disconnect and Reconnect the USB-Cable to your PC, then type "help" into the MIOS-Terminal, this should print out the actual Board-Configuration, if this happens then: 4. Type following commands:
  - \* set lcd\_type 0x84
  - \* set lcd\_num\_x 26
  - \* set lcd\_num\_y 1
  - \* set lcd\_width 128
  - \* set lcd\_height 64
  - \* store

at least this has to be done when using this core for [Triggermatrix5](#)

## To Do

It works! next variant will be, without Discoveryboard and the STM32F407vgt6 directly soldered to the board...

# Community users working on it

- **Phatline** = PCB & Schematic, UI-Programming, Documentation...

Just let a Private message on the forum to user already involved.  
or join the forum: [Triggermatrix 5](#)

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Last update: **2023/02/12 13:39**

