2025/10/22 22:14 1/3 wCoreF4 PCB

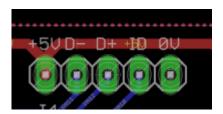
wCoreF4 PCB

This is the carrier board for the Waveshare Core407v. It performs breakout functions of all of the standard ports as per the design based on the STM32 Discovery.

Schematic

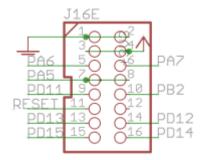
The circuit is mostly identical to what was drawn previously. The following parts are different:

USB entry (J1)



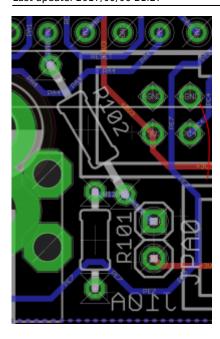
This header supplies +5V, 0V, USB data and the ID state. Normally it will be connected to the USB module by a short cable.

Extended port (J16E)



The original J16 functionality is preserved, but extra pins are available on a IDC16 header. These include the Reset signal and pins normally controlling LEDs. This header is normally connected to the RES-SD module.

User button (JPA0)



This jumper replaces the "bootloader" functionality of the Discovery board's blue button. It could be wired to an external panel control if needed.

BOM v1.0

Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes
Resis	stors								
	2	220R 5%	THT	R7A, R8A					
	2	220R 5%	1206	R7B, R8B					
	1	330R 5%	THT	R102					
	4	1k 5%	1206	R7B1-4					
	2	1k 5%	THT	R11, R13					
	1	10k 5%	THT	R12					
	1	220k 5%	THT	R101					
Pots	-	•					•		•
	2	10k	6*5mm vert	P1, P2					
Capa	citor	'S							
	3	100n	1206	C1A, C1B, C2					
Diod	es								
	1	1N4148	THT						
Trans	sisto	rs	'						
	1	BC337	TO-92	T1					
ICs									
	2	74HCT125	SOIC	IC1A, IC1B	595-SN74HCT125DR				Ensure HCT
	1	74HC595	SOIC	IC2					
Head	lers								
	2	1*2	male						

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Type	Qty	Value	Package	Parts	Mouser	Reichelt	Conrad	Other	Notes	
Resis	Resistors									
	1	1*3	male							
	1	1*5	male						or wire directly	
	9	2*5	male							
	3	2*8	male							
	2	2*8	male							
Hard	ware							'		
	4		M3 spacer	8mm(?)						
MCU	brea	kout								
	1	Waveshare Core 407v								

Versions

v1.0: first release.

Assembly

License

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