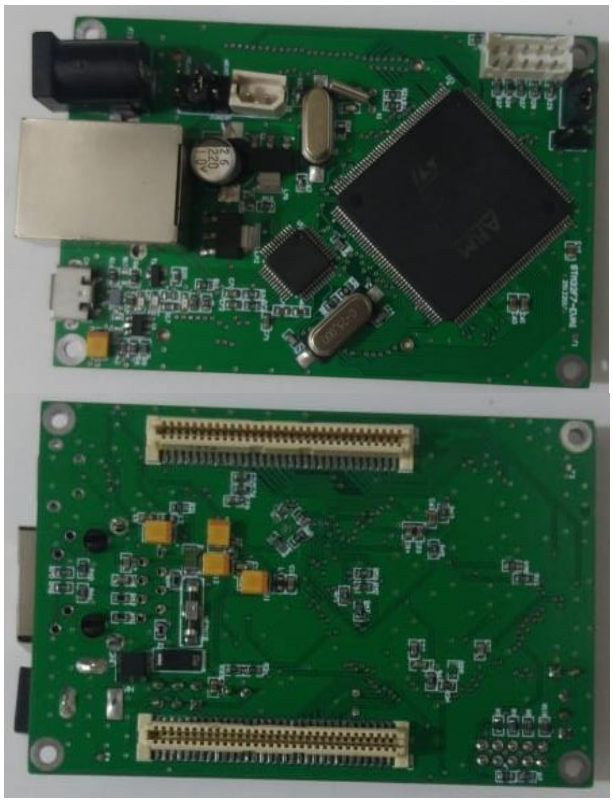
Part Number: ARDSTM32F769-101

Compact Control Board With STM32F769IIT Microcontroller, Communication Interfaces and IEEE-PMC-1386 Connector.



Features

- STM32F769-IIT6 Microcontroller
- Core: Arm® 32-bit Cortex®-M7 CPU
- IEEE-PMC-1386 Connector
- 10/100 Ethernet Connector
- I^2Cs, USARTs, UARTs, CANs Communication Interfaces
- 25MHz crystal oscillator
- 32kHz RTC Clock Source
- JTAG/SWD Debug Mode Interfaces
- A/D and D/A converters
- 3 Power Supply Options

  - ❖ On Direct Power Pins
  - ❖ Standard 5V DC Jack
  - ❖ On PMC Connector

Descriptions

ARDSTM32F769 has all the capabilities of the STM32F769 microcontroller. It can be easily integrated into any kind of custom designs by using PMC connector. Ethernet and other communication protocols supported by STM32F769 processor are provided through PMC connector. Board can be powered from 3 different power input. Standard 5V DC jack and direct power pins provide power the board without the need for a daughter boards. This provides the opportunity to continue development without daughter card. By using PMC connector power input, board does not need any power input.

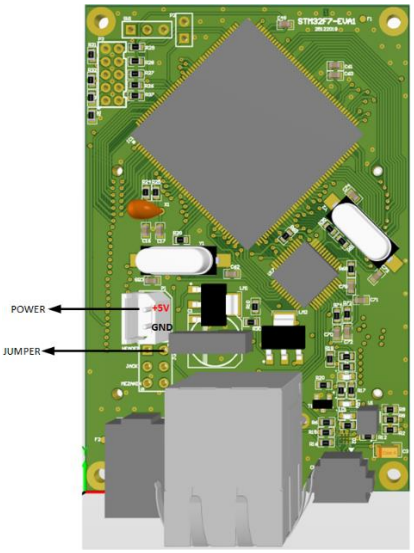
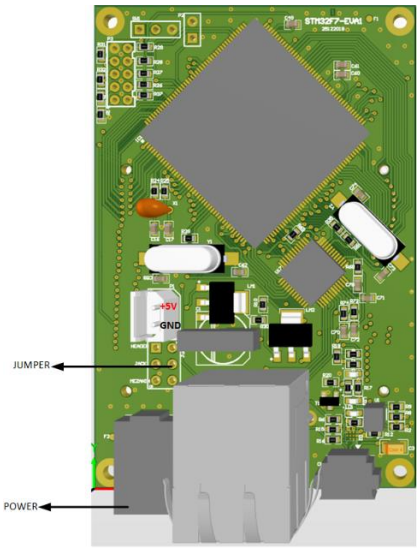
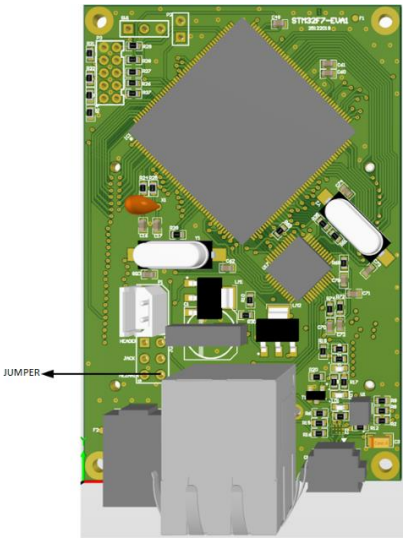
Pin-Out:

PMC1 Conn. pin number	IO name	IO	Reserved	PMC2 Conn. pin number	IO name	IO	Reserved
1	PI7	IO1		1	PD15	IO50	
2	PE3	IO2		2	PG2	IO51	
3	PI6	IO3		3	PD14	IO52	
4	PE4	IO4		4	PG3	IO53	
5	PI5	IO5		5	PD13	IO54	
6	PE5	IO6		6	PG4	IO55	
7	PI4	IO7		7	PD12	IO56	
8	PE6	IO8		8	PG5	IO57	
9	PE1	IO9		9	PD11	IO58	
10	PI8	IO10		10	PG6	IO59	
11	PE0	IO11		11	PD10	IO60	
12	PC13	IO12		12	PB11	IO61	
13	PB9	IO13		13	PD9	IO62	
14	PI9	IO14		14	PG7	IO63	
15	PB8	IO15		15	PD8	IO64	
16	PI11	IO16		16	PG8	IO65	
17	PB7	IO17		17	PB15	IO66	TIM1_CH3N
18	PF0	IO18		18	PC6	IO67	
19	PB6	IO19		19	PB14	IO68	TIM1_CH2N
20	PF1	IO20		20	PC7	IO69	
21	PB5	IO21		21	PB12	IO70	TIM1_BKIN
22	PF2	IO22		22	PC8	IO71	
23	PG12	IO23		23	PB10	IO72	
24	PF3	IO24		24	PC9	IO73	
25	PG10	IO25		25	PE15	IO74	TIM1_BKIN
26	PF4	IO26		26	PIO	IO75	
27	PG9	IO27		27	PE14	IO76	TIM1_CH4
28	PF5	IO28		28	PA5	IO77	
29	PD7	IO29		29	PE13	IO78	TIM1_CH3
30	PF6	IO30		30	PA4	IO79	
31	PD6	IO31		31	PE12	IO80	TIM1_CH3N
32	PF7	IO32		32	PA3	IO81	
33	PD5	IO33		33	PE11	IO82	TIM1_CH2
34	PF8	IO34		34	PA9	IO83	
35	PD4	IO35		35	PE10	IO84	TIM1_CH2N
36	PF9	IO36		36	NC	NC	RXD3
37	PD3	IO37		37	PE9	IO85	TIM1_CH1
38	PF10	IO38		38	NC	NC	RXD2
39	PD2	IO39		39	PE8	IO86	TIM1_CH1N
40	PC0	IO40		40	NC	NC	RX_DV
41	PD1	IO41		41	PE7	IO87	TIM1_ETR
42	PH2	IO42		42	GND	GND	
43	PD0	IO43		43	PG1	IO88	
44	PH5	IO44		44	GND	GND	
45	PC12	IO45		45	PG0	IO89	
46	NC	NC	MDC	46	GND	GND	
47	PC11	IO46		47	PF15	IO90	
48	NC	NC	TX_CLK	48	GND	GND	
49	PC10	IO47		49	PF14	IO91	
50	NC	NC	RX_CLK	50	GND	GND	
51	PI3	IO48		51	PF13	IO92	
52	NC	NC	MDIO	52	GND	GND	
53	PI1	IO49		53	PF12	IO93	
54	NC	NC	TXD0	54	GND	GND	
55	GND	GND		55	PF11	IO94	
56	NC	NC	TXD1	56	GND	GND	
57	GND	GND		57	PB2	IO95	
58	NC	NC	CRS	58	NC	NC	RX_ER
59	+5V	+5V		59	PB1	IO96	TIM1_CH3N

60	NC	NC	RXD0	60	NC	NC	TXD3
61	+5V	+5V		61	PB0	IO97	TIM1_CH2N
62	NC	NC	RXD1	62	NC	NC	TXD2
63	+5V	+5V		63	PA6	IO98	TIM1_BKIN
64	NC	NC	TX_EN	64	NC	NC	COL

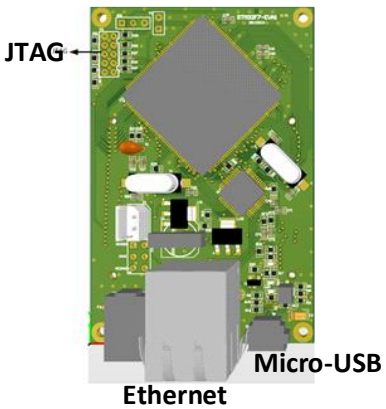
Power-Up:

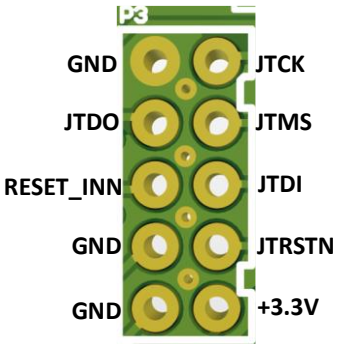
Board can be powered by 3 different configurations. Power range is from +5V to +12V. It draws about 200mA current when powered by +5V.

Configuration 1: When header pins are shorted by jumper, power is supplied from two pins header.	*Configuration 2:* When jack pins are shorted by jumper, power is supplied from power jack.	*Configuration 3:* When mezannine pins are shorted by jumper, power is supplied from PMC1 connector. Pin numbers 55, 57, 59, 61, 63 are positive supply (+5V to +12V), pin numbers 56, 58, 60, 62, 64 are ground.
		

Programming and peripheral interfaces:

Board can be programmed over JTAG connector. JTAG connector and its pin-outs are illustrated on following pictures. Board is supporting Ethernet and micro USB interfaces.





Mechanical Drawings: