

STM32 Mini V2.0

STM32F103RCT6

Board

Name	STM32 Mini V2.0
Part	STM32_Mini
Brand	Unknown
Origin	China

Microcontroller

Part	STM32F103RCT6
Manufacturer	ST-Microelectronics
Core	Arm Cortex-M3
Max. Clock Speed	72MHz
Package	UFQFPN 64 pins

Internal memories

FLASH	256KiB
SRAM	48KiB

Oscillators

HSI	8MHz
LSI	40kHz
HSE	8MHz
LSE	32.768kHz

Power

Sources	Any +3.3V pin (+3.3V) Any +5V pin (+5V) USB connector (+5V)
V _{DDA} pin	No
V _{SSA} pin	No
V _{REF-} pin	No
V _{REF+} pin	No
Backup battery	None

Regulator

Manufacturer	Advanced Monolithic Systems Inc.
Part	AMS1117 (AMS1117)
Package	SOT223 3 pins
Input	+4.6V to +15V
Output	+3.3V @ 1A
Datasheet	AMS1117.pdf

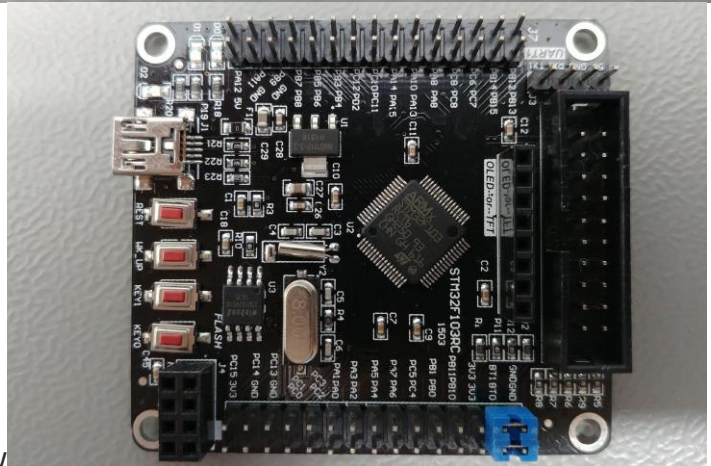
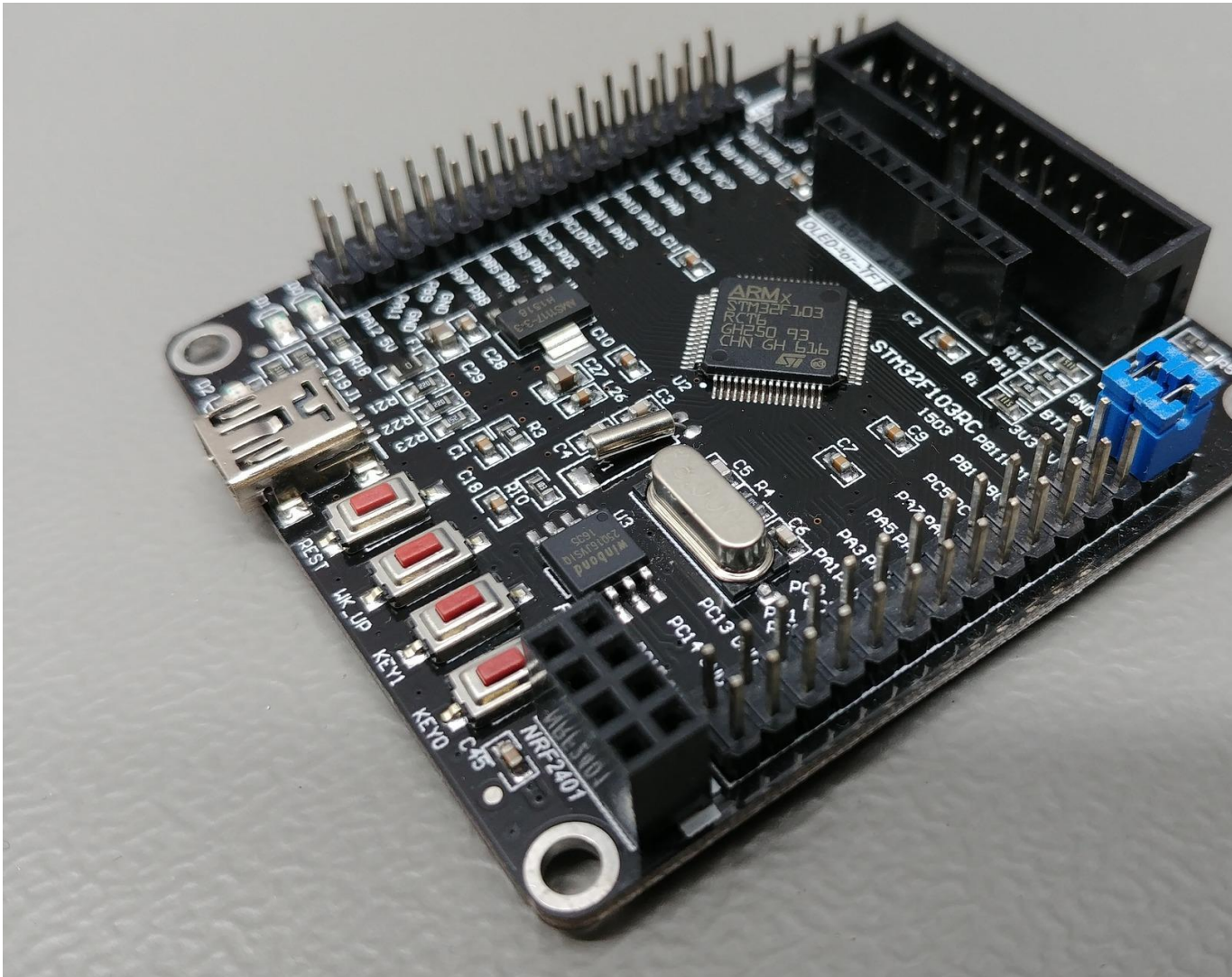
PCB

Color	Black
Size (w x l)	57mm x 62mm
Mounting	4x mounting hole (M3)

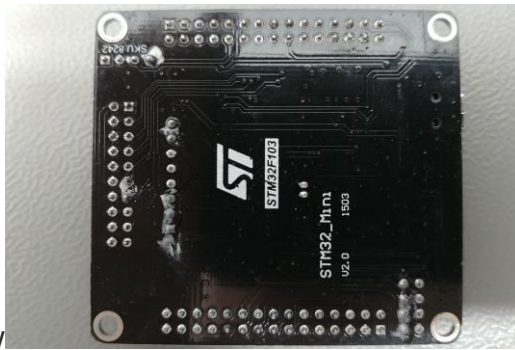
Remarks

- **Warning:** The +5V pins on this board are directly connected to the +5V pin of the USB connector. There is no protection in place. Do not power this board through USB and an external power supply at the same time.

Pictures



STM32 Mini V2.0: Perspective view



STM32 Mini V2.0: Top view
Bottom view

STM32 Mini V2.0:

Resources

- [Perspective view](#)
- [Top view](#)
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Inputs

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- [BOOT0 jumper](#)
- [BOOT1 jumper](#)
- [User button 1](#)
- [User button 2](#)
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Outputs

- [Power LED](#)
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Connectors

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Devices

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Inputs & outputs

Reset button

Name	REST
Reference	-
Type	Button
Connected to	NRST
Mode	Active low

BOOT0 jumper

Name	-
Reference	-
Type	2-way jumper
Connected to	BOOT0
Mode	N.A.

- **Note:** This jumper is part of Header 2.

BOOT1 jumper

Name	-
Reference	-
Type	2-way jumper
Connected to	PB2
Mode	N.A.

- **Note:** This jumper is part of Header 2.

User button 1

Name	WK_UP
Reference	-
Type	Button
Connected to	PA0
Mode	Active low

User button 2

Name	KEY1
Reference	-
Type	Button
Connected to	PC13
Mode	Active low

User Button 3

Name	KEY0
Reference	-
Type	Button
Connected to	PC1
Mode	Active low

Power LED

Name	-
Reference	D2

Type LED
Connected to +3.3V rail
Mode N.A.

User LED 1

Name -
Reference D0
Type LED
Connected to PA8
Mode Sink

User LED 2

Name -
Reference D1
Type LED
Connected to PD2
Mode Sink

Connectors & headers

Header 1 properties

Name Unknown
Reference J7
Type Pin header (2.54mm, 15x2, male)

Header 1 pins

#	Name	Function	Connected to
1	PB12	-	PB12
2	PB13	-	PB13
3	PB14	-	PB14
4	PB15	-	PB15
5	PC6	-	PC6
6	PC7	-	PC7
7	PC8	-	PC8
8	PC8	-	PC9
9	PA8	-	PA8
10	PA8	-	PA9
11	PA10	-	PA10
12	PA13	-	PA13
13	PA14	-	PA14
14	PA15	-	PA15
15	PC10	-	PC10
16	PC11	-	PC11
17	PC12	-	PC12
18	PD2	-	PD2
19	PB3	-	PB3
20	PB4	-	PB4
21	PB5	-	PB5
22	PB6	-	PB6

23	PB7	-	PB7
24	PB8	-	PB8
25	PB9	-	PB9
26	GND	-	Ground plane
27	PA11	-	PA11
28	GND	-	Ground plane
29	PA12	-	PA12
30	5V	-	+5V rail

Header 1 properties

Name	Unknown
Reference	J6
Type	Pin header (2.54mm, 15x2, male)

Header 1 pins

#	Name	Function	Connected to
1	3V3	-	+3.3V rail
2	PC15	-	PC15
3	GND	-	Ground plane
4	PC14	-	PC14
5	GND	-	Ground plane
6	PC13	-	PC13
7	PC0	-	PC0
8	PC1	-	PC1
9	PC2	-	PC2
10	PC3	-	PC3
11	PA0	-	PA0
12	PA1	-	PA1
13	PA2	-	PA2
14	PA3	-	PA3
15	PA4	-	PA4
16	PA5	-	PA5
17	PA6	-	PA6
18	PA7	-	PA7
19	PC4	-	PC4
20	PC5	-	PC5
21	PB0	-	PB0
22	PB1	-	PB1
23	PB10	-	PB10
24	PB11	-	PB11
25	3V3	-	+3.3V rail
26	3V3	-	+3.3V rail
27	BT0	-	BOOT0
28	BT1	-	PB2
29	GND	-	Ground plane
30	GND	-	Ground plane

Main USB connector properties

Name	Unknown
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Reference J1
Type USB Mini

Main USB connector pins

#	Name	Function	Connected to
1	-	VCC	+5V rail
2	-	D-	PA11
3	-	D+	PA12
4	-	ID	N.C.
5	-	GND	Ground plane

JTAG header properties

Name Unknown
Reference J5
Type IDC (2.54mm, 10x2, male)

JTAG header pins

#	Name	Function	Connected to
1	-	VCC	+3.3V rail
2	-	VCC	+3.3V rail
3	-	TRST	PB4
4	-	GND	Ground plane
5	-	TDI	PA15
6	-	GND	Ground plane
7	-	TMS / SWDIO	PA13
8	-	GND	Ground plane
9	-	TCLK / SWCLK	PA14
10	-	GND	Ground plane
11	-	RTCK	N.C.
12	-	GND	Ground plane
13	-	TDO / SWO	PB3
14	-	GND	Ground plane
15	-	RESET	NRST
16	-	GND	Ground plane
17	-	N.C.	N.C.
18	-	GND	Ground plane
19	-	N.C.	N.C.
20	-	GND	Ground plane

OLED or TFT LCD header properties

Name OLED--or--TFT
Reference None
Type Pin header (2.54mm, 8x1, female)

OLED or TFT LCD header pins

#	Name	Function	Connected to
1	3V	-	+3.3V rail
2	GND	-	Ground plane
3	SDI	-	PB15
4	SCL	-	PB13

5	CS	-	PB12
6	RST	-	NRST
7	A0	-	PC6
8	NC	-	N.C.

nRF24L01 module header properties

Name	NRF2401
Reference	J4
Type	Pin header (2.54mm, 4x2, female)

nRF24L01 module header pins

#	Name	Function	Connected to
1	GND	GND	Ground plane
2	3V3	VCC	+3.3V rail
3	PE4	CE	PA4
4	PE2	CSN	PC4
5	PB3	SCK	PA5
6	PB5	MOSI	PA7
7	PB4	MISO	PA6
8	PC13	IRQ	PC5

Serial header properties

Name	UART1
Reference	J3
Type	Pin header (2.54mm, 4x1, male)

Serial header pins

#	Name	Function	Connected to
1	5V	-	+5V rail
2	GND	-	Ground plane
3	RX1	-	PA10
4	TX1	-	PA9

Devices

W25Q16JV properties

Name	FLASH
Reference	U3
Manufacturer	Winbond Electronics Corporation
Part	W25Q16JV
Marking	W25Q16JVSIQ
Datasheet	W25Q16JV.pdf
Package	SOIC 8 pins
Description	2MiB Dual/Quad SPI FLASH

W25Q16JV pins

#	Name	Function	Connected to
1	-	/CS	PA2 pulled up +3.3V rail via 10kΩ resistor
2	-	DO	PA6
3	-	/WP	+3.3V rail

4 -	GND	Ground plane
5 -	DI	PA7
6 -	CLK	PA5
7 -	/HOLD	+3.3V rail
8 -	VCC	+3.3V rail