

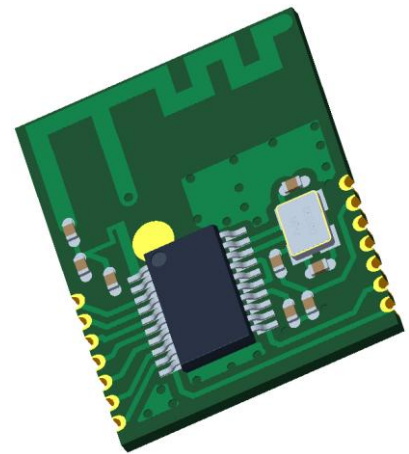
## GENERAL DESCRIPTION

MD2560 is a low cost, high integration of the 2.4 GHz wireless transceiver application modules, the SOC module adopts high-performance ARM0+ and 2.4 G technology.it has a high sensitivity, low power consumption, and has the advantages of strong anti- interference capability. it can be used in wireless remote control, wireless data exchange, intelligent toys, intelligent sensor network, E-label, etc. it can also upgrade for the application of ad-hoc network, make the application more flexible.

The Module has multiple interface UART,SPI,I2C communication standard, and low power consumption, can wake up, and has multiple 12-bit 1M sps high-precision SARADC, as well as flexible comparator, PWM output, using coreCortex m0 +.the users can re-develop software if needed according to Keil  $\mu$ Vision or IAR.

## KEY PRODUCT FEATURES

- Low power consumption of 2.4GHz ISM band, GFSK rf transceiver
- 1Mbps/250Kbps data rate
- SPI interface
- Comply with international standards such as FCC/ETSI
- Proximity mode for environments with specific security requirements
- 32MHz cortex-m0 + 32-bit CPU platform
- 32K byte Flash, with write protection function
- 4K bytes of RAM with parity check to enhance system stability
- Clock, crystal vibration
  - Internal high-speed clock 4M, 8M, 16M, 22M, 24MHz
  - Internal low speed clock 32.8K / 38.4KHz
- Timer/counter
  - 3 universal 16-bit timer/counter
  - 16-bit timer/counter could work under the low power consumption mode
  - 3 high performance 16 bit timer/counter, support PWM complementary, dead zone protection function
  - 1 programmable 16 bit timer/counter, support capture comparison, PWM output
  - A 20 bit programmable counting watchdog circuit, built specifically for ultra-low power rc-osc to provide WDT counting
- Communication interface
  - UART0-UART1 standard communication interface
  - LPUART supports ultra-low power UART using low speed clocks
  - SPI standard communication interface
  - I2C standard communication interface
- 12 bit 1Msps sampling high speed and high precision SARADC, with built-in operational amplifier, can measure external weak signal
- Voltage comparator VC
- Working voltage: 1.9~ 3.6v



1 pinouts definition

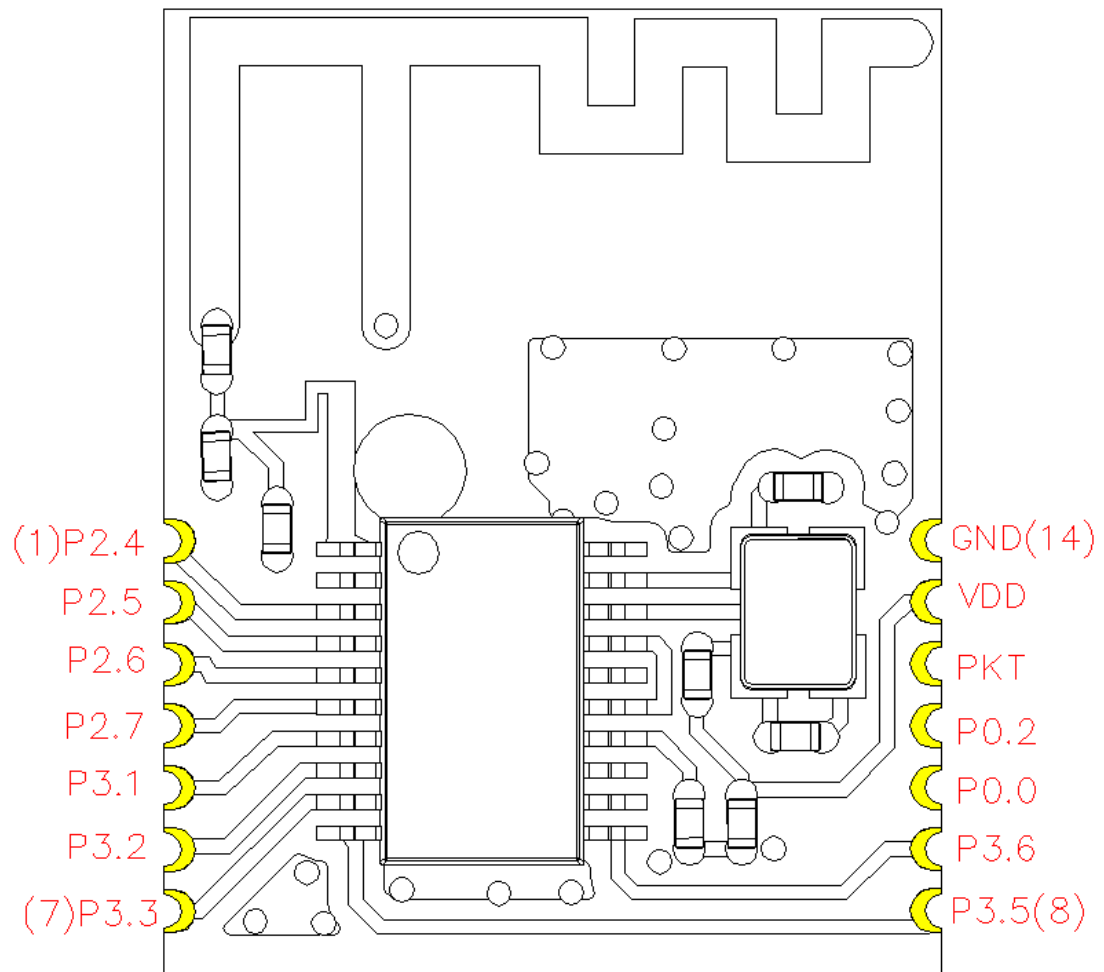


Figure 1 pinouts definition

Table 1 MD2560 pinouts description

Pins number	Pins name	Pins type	description
1	P2.4/CE	GPIO	P2.4 universal digital input/output pin
		I_B[0]	TIM4 captures input/compare output B
		I_B[1]	TIM5 captures input/compare output B
		HCLK1/2/4/8	HCLK output
		CAP1/CMP1	PCA captures input/compare output 1
		<b>SPI_MOSI</b>	SPI module host outputs, slave input data signal
		UART1_RXD	UART1RXD
		VC1_OUT	VC1output
		AIN0	The analog input
		Digital input	module enable, reset signal, weak pull-up, 1- enable, 0- reset
2	P2.5	GPIO	P2.5 universal digital input/output pin
		<b>SPI_CLK</b>	SPIClock
		CAP0/CMP0	PCA captures input/compare output 0
		I_A[1]	TIM5 captures the input/compare output A
		LVD_OUT	LVDoutput
		UART2_RXD	UART2RXD
		I2C_DAT	I2Cdata
		GATE1	TIM1 gate
LVDIN3/VC1	The analog input		
3	P2.6	GPIO	P2.6 universal digital input/output pin
		<b>SPI_MOSI</b>	SPI module host output, slave input data signal
		I_A[0]	TIM4 captures the input/compare output A
		I_B[1]	TIM5 captures input/compare output B
		CAP2/CMP2	PCA capture input/compare output 2
		UART2_TXD	UART2TXD
		I2C_CLK	I2C clock
		EXT1	TIM1 clock input
AIN1	The analog input		
4	P2.7	GPIO	P2.7 universal digital input/output pin
		<b>SPI_MISO</b>	SPI module host input and slave output data signals

		I_A[1]	TIM5 captures the input/compare output A
		I_A[2]	TIM6 captures the input/compare output A
		CAP3/CMP3	PCA capture input/compare output 3
		UART0_RXD	UART0RXD
		IRC24M_OUT	24M oscillating output
		X32M_OUT	32M oscillating output
		TDIO	TDIO
5	P3.1	GPIO	P3.1 universal digital input/output pins
		TM3_TOG	TIM3 rollover output
		ECI	PCA external clock
		PCLK1/2/4/8	PCLK output
		VC0OUT	VC0 output
		UART0_TXD	UART0TXD
		IRC38K_OUT	38K oscillating output
		HCLK1/2/4/8	HCLKoutput
		TCLK	TCLK
6	P3.2	GPIO	P3.2universal digital input/output pins
		TM3_TOGB	LPTIMrollover output
		CAP2/CMP2	PCAcaptures the input/compare output 2
		I_B[2]	TIM6 captures the input/compare output B
		VC1OUT	VC1output
		UART1_TXD	UART1TXD
		CAP4/CMP4	PCAcaptures the input/compare output4
		RTC_1HX	RTC1HZ output
		AIN2/VC2	the analog input
7	P3.3	GPIO	P3.3 universal digital input/output pin
		UART2_RXD	UART2RXD
		CAP1/CMP1	PCACapture input/compare output 1
		I_B[1]	TIM5 Capture input/compare output B
		ECI	PCAThe external clock
		UART1_RXD	UART1RXD
		X32K_OUT	32Koscillating output
		TM1_TOGB	TIM1 rollover output
		AIN3/VC3	the analog input

8	P3.5	GPIO	P3.5 Universal digital input/output pin
		UART1_TXD	UART1TXD
		UART0_TXD	UART0TXD
		GATE0	TIM0 gate
		I_B[0]	TIM4 Capture input/compare output B
		<b>SPI_MISO</b>	SPI module host input, slave output data signals
		I2C_DAT	I2Cdata
		AIN5/VC5	The analog input
9	P3.6	GPIO	P3.6 universal digital input/output pin
		UART1_RXD	UART1RXD
		I_A[2]	TIM6 captures the input/compare output A
		UART0_RXD	UART0RXD
		CAP4/CMP4	PCA capture input/compare output 4
		I_A[1]	TIM5 captures the input/compare output A
		<b>SPI_MOSI</b>	SPI module host output, slave input data signal
		I2C_CLK	I2C clock
		AIN6/VC6/AVREF	The analog input
10	P0.0	RESETB	Reset input port, low effective, chip reset
		GPIO	P0.0 digital input
11	P0.2	GPIO	P0.2 universal digital input/output pin
		UART0_TXD	UART0TXD
		I2C_CLK	I2C clock
		UART1_RXD	UART1RXD
		TM0_TOGB	TIM0 flips the inverting output
		I_A[2]	TIM6 captures the input/compare output A
		<b>SPI_CS</b>	SPICS
		GATE2	TIM2 gate
		AIN8	The analog input
Analog	External X32M crystal oscillator clock output		
12	PKT	模拟输出	Send and receive packet completion flag bit
13	VDD	Power	Module power supply
14	GND	GND	Module Ground

2 application circuit

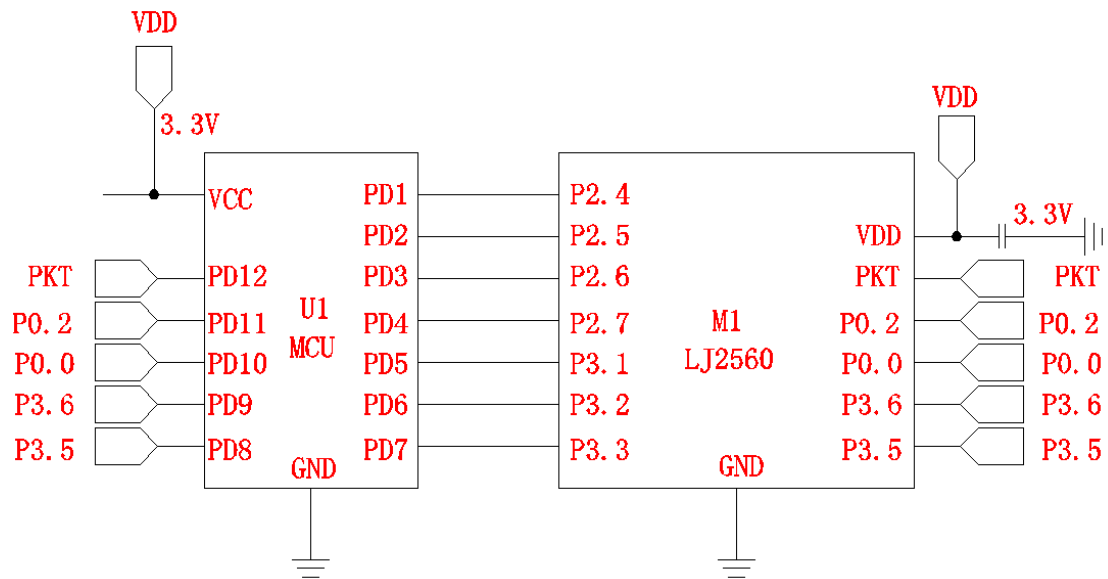
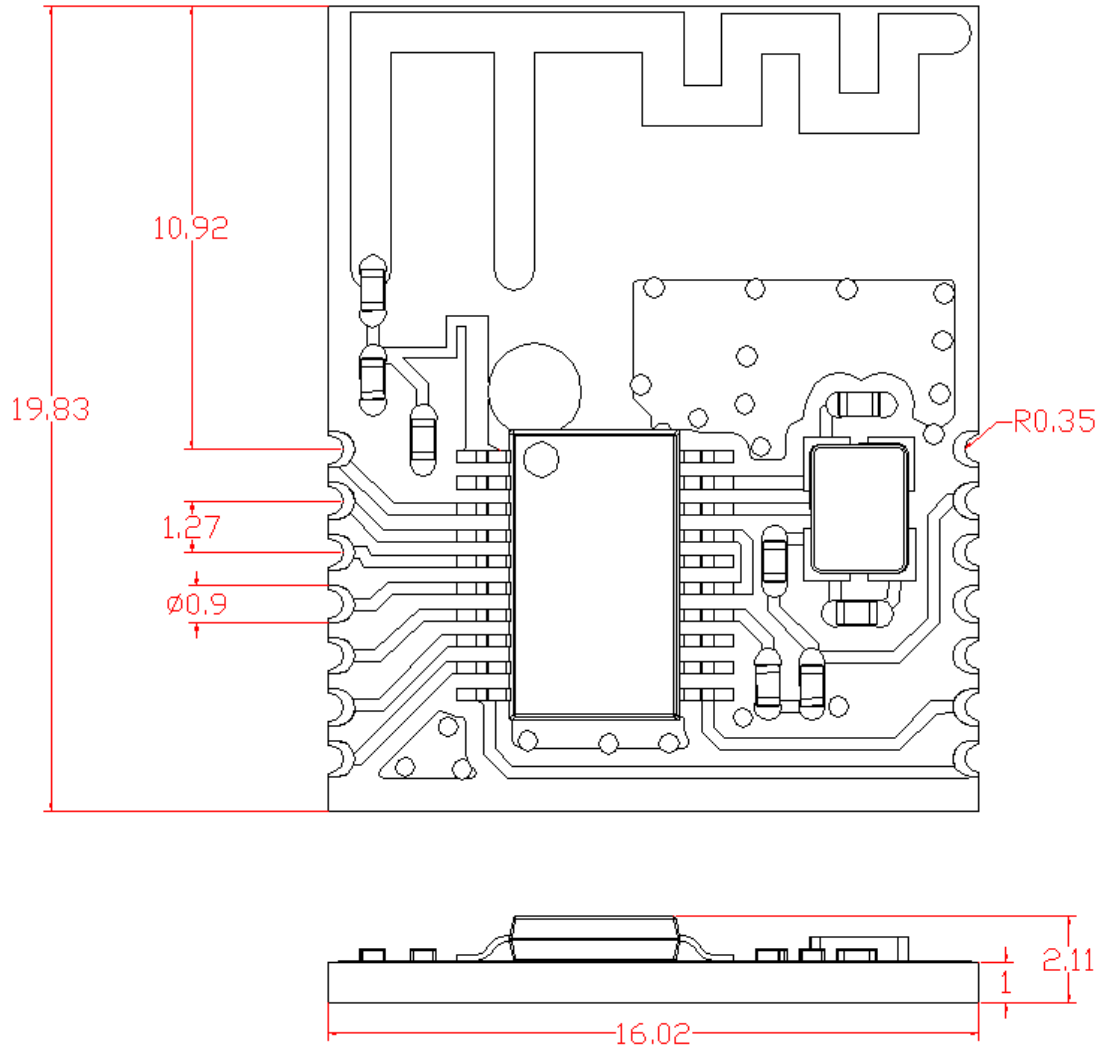


Figure 2 application circuit

3 module outline diagram

Unit : mm



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