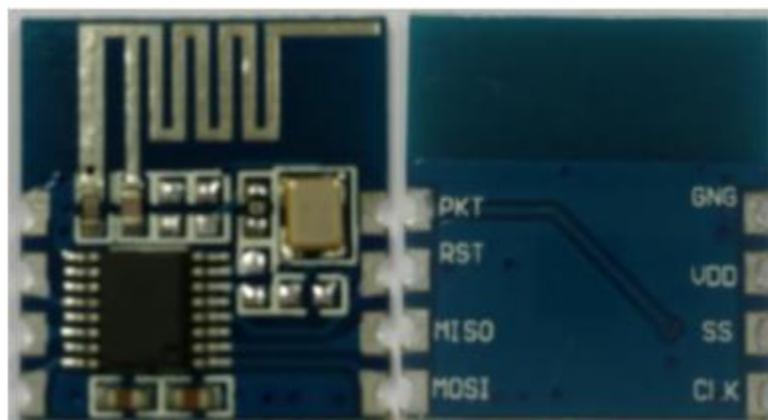


## DESCRIPTION

CYTR12-V2.0 is a small-sized, low-power, long-distance wireless transceiver module. Low-cost, highly-integrated 2.4GHz wireless transceiver chip with integrated transmitter, receiver, frequency synthesizer, and GFSK modem on-chip. The transmitter supports adjustable power, and the receiver uses digital extended communication mechanisms to achieve excellent transceiver performance under complex environments and strong interference conditions. The peripheral circuit is simple, just need to match the MCU and a few peripheral passive devices.

CYTR12-V2.0 transmits GFSK signals, and the maximum transmit power can reach + 6dBm. The receiver uses a low-IF structure, and the receiving sensitivity can reach -96dBm@62.5Kbps. Digital channel energy detection can monitor channel quality at any time. The on-chip transmits and receives FIFO registers can communicate with the MCU, store data, and then transmit over the air. It has built-in CRC, FEC, auto-ack and retransmission mechanisms, which can greatly simplify system design and optimize performance. The digital baseband supports 4-wire SPI interface. In addition, there are 2 digital interfaces: Reset and Pkt flag. In order to improve battery life, the chip reduces power consumption in all aspects. The minimum working voltage of the chip can reach 2.2V, and the minimum current is 1uA under the condition of holding the register value.

CYTR12-V2.0 module integrates all RF-related functions and devices. Users only need to perform simple register configuration through the SPL interface, which can realize communication and shorten the user's wireless product development cycle.



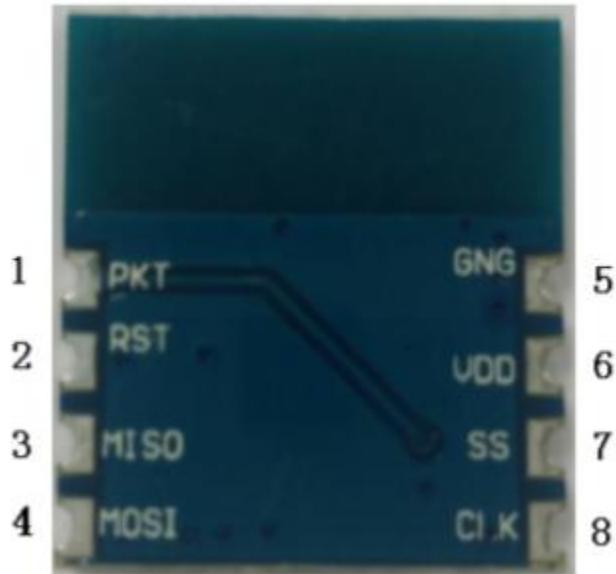
## **FEATURES**

- Receiving sensitivity -96dBm @ 62.5Kbps; transmitting power +6dBm;
- Frequency: 2402--2482 MHz (support hopping frequency);
- Power supply input range: 2.2--3.6V;
- TX current: 15--24mA;
- RX current: 18mA;
- Support SPI interface, data Rate: 1Mbps, 250Kbps, 125Kbps, 62.5Kbps optional;
- Temperature range: -20 ~ 70°C (industrial grade); It can work under complex environment and under the condition of strong interference.
- Sleep mode working current: 1uA.

## **APPLICATIONS**

- (1) Wireless data acquisition and control of industrial instrumentation.
- (2) AMR (water, electric, gas) Meter Reader;
- (3) Data Communication System;
- (4) The Remote Control System;
- (5) Intelligent Home Automation System;
- (6) Remote Control Door Opener;
- (7) Wireless Security Alarm;
- (8) Wireless Keyboard Mouse;
- (9) Wireless Industrial Controller;
- (10) Wireless Data Transmission;

## PIN DEFINITION



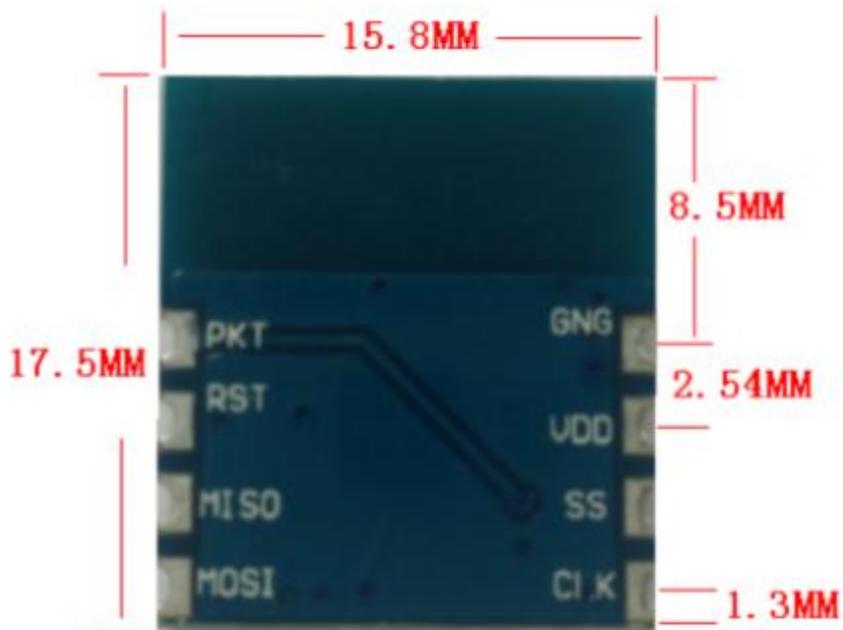
PIN	NAME	FUNCTION DESCRIPTION
1	PKT	Transmitting/receiving status. It can be set effective in high or low level
2	RST	Chipset enable control, workable in high level
3	MISO	SPI Idata output pin
4	MOSI	SPI Idata input pin
5	GND	Ground
6	VDD	Power supply
7	SPI-S	If set SPI_S as 0, it can enable SPI signal and set the chip into sleep mode
8	CLK	Clock input pin

## PARAMETERS

Testing Condition: Power Supply 3.3V, Temperature at 25°C

Parameter	Symbol	Status	Reference Value			Unit
			Min.	Typical	Max.	
Working Freq.	Fc		2402		2482	MHz
Modulation			GFSK			
Receiver Sensitivity				-96		dBm
Output Power					6	dBm
Working Voltage			2.2	3.3	3.6	V
Working Current	TX		15		24	mA
	RX			18		mA
Working Temperature			-20		+70	°C
Sleeping Current				1		uA
Data Rate			62.5K	62.5K	1M	bps

## DIMENSION:



## **ORDER INFORMATION**

**PART NO: CYTR12**

CY --BRAND NAME

TR --TRANSCEIVER

12-V2.0 --MODEL NUMBER

For more information and assistance, please contact us as follows:

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