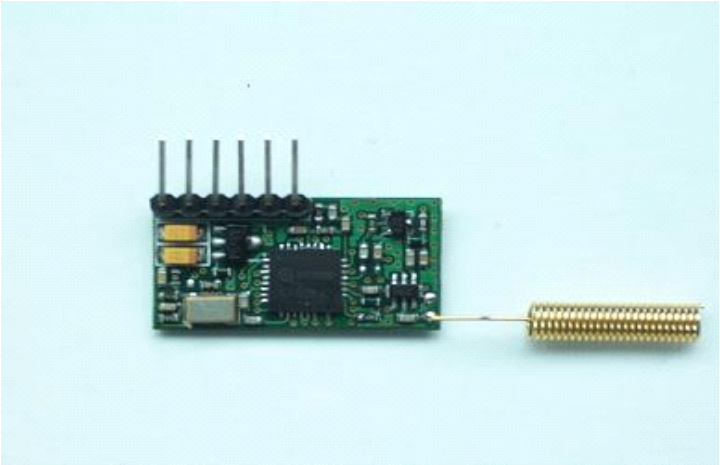
KYL-500S Mini-size Wireless Data Transceiver Module



KYL-500S is a Mini-size RF transceiver. It is usually used for restricted space application. With TTL interface, it is widely used for micro-controller wireless communication and other TTL level port communication systems. It has high reliability and good performance.

I. Technical specification

PERFORMANCE	
Power Output:	50mW(Default), (10~100mW optional)
RF Line-of-sight Range:	1000m@1200bps; 600m@9600bps
RF Effective Rate:	1200/2400/4800/9600/19200bps
Space Channel:	1MHz(Default),(12.5/25KHz/other customization)
Bandwidth:	<25KHz
Receiver Sensitivity:	-123dBm@1200bps(1% BER)
NETWORKING	
Networking Topology:	Point-to-point, point-to-multipoint
COMPATIBILITY	
KYL-200 and KYL-300 series	

POWER	
Supply Voltage:	5V DC (default), 3.3-3.6V(optional)
Transmit Current:	<40mA
Receive Current:	<20mA
Sleep current:	<30uA
GENERAL	
Communication Mode:	Half-duplex
Frequency Band:	400-470MHzMHz
Channel:	8(default),16/32/64(optional)
Interface:	TTL
PHYSICAL PROPERTIES	
Size:	28mm×15mm×10mm (excluding antenna base and data pin)
Weight:	20g
Antenna Base:	50Ω, SMA
Operating Temperature:	Industrial:-40℃~+85℃(TCXO)
Frequency Stability:	±2.5ppm Industrial

II. Application Field

KYL-500S the micro power wireless transceiver data module is suitable for:

* Wireless alarm and security systems
* Wireless scanner
* Building automation, security, wireless monitoring and control
* Wireless data transmission, automatic data collection system;
* Sports training & competition;
* Wireless POS, PDA wireless smart terminal;
* Wireless telemetry Charging for parking, parking lot;
* Wireless modem Automobile inspection and four-wheel orientation;
* Point to multi-point wireless network

.....

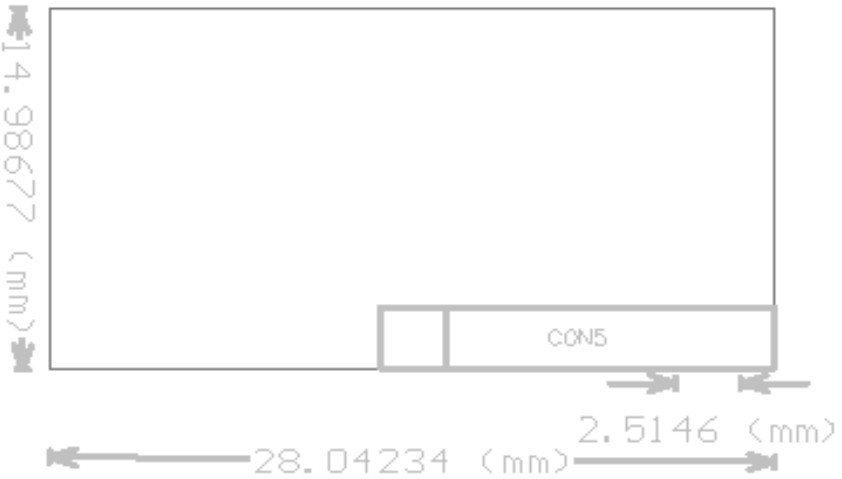
III. How to Use It

1. Default 5V Power supply
2. PIN Definition (6pin)

Table 1: JP1 Pin Definitions and connection methods

Pin No.	Signal Name	Function	Level	Electronic Level	Remarks
1	GND	Grounding of power supply	-		
2	VCC	Power supply DC	-	5 V	
3	RXD/TTL	Data receiving	TTL	TTL	
4	TXD/TTL	Data transmitting	TTL	TTL	
5	SLP	Sleep control	-	Sleep signal	Low level valid
6	TEST	Factory testing	-		

3. Installation dimension



4. The Function-indicator light

a. The red and green LED indicator turn on for 500mS when power on.

b. The red LED indicator is always on when transmitting data. It is off when finishing data transmitting.

c. The green LED indicator is always on when receiving data. It is off when finishing data receiving

5. Parameter setting by our software

You can use our software KYLCOM.exe to read or set the parameter on computer. When you connect RF module to PC by the testing cable, please remember to connect the DB9 as well as USB port to computer.

Corresponding frequency points at 433MHz of 1-8 channels

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	429.0325MHZ	2	430.0325MHZ	3	431.0325MHZ	4	432.0325MHZ
5	433.0325MHZ	6	434.0325MHZ	7	435.0325MHZ	8	436.0325MHZ

6. Sleep function instruction:

In order to save power, KYL-500L transceivers support Sleep function. In sleep mode, the current consumption is less than 1uA.

a. How to use the Sleep function:

The Pin7 'SLP' in JP1 is the signal of sleep control. At high power level, transceiver stays in working mode. At low power level (<0.5V), transceiver stays in sleep mode. The SLP signal can convert transceiver from working to sleep mode in 1ms after falling edge. If the Sleep signal arrives when the transceiver is transmitting data, the module will enter sleep mode after finishing transmission. From sleep mode to working, it takes the transceiver 1ms after rising edge.

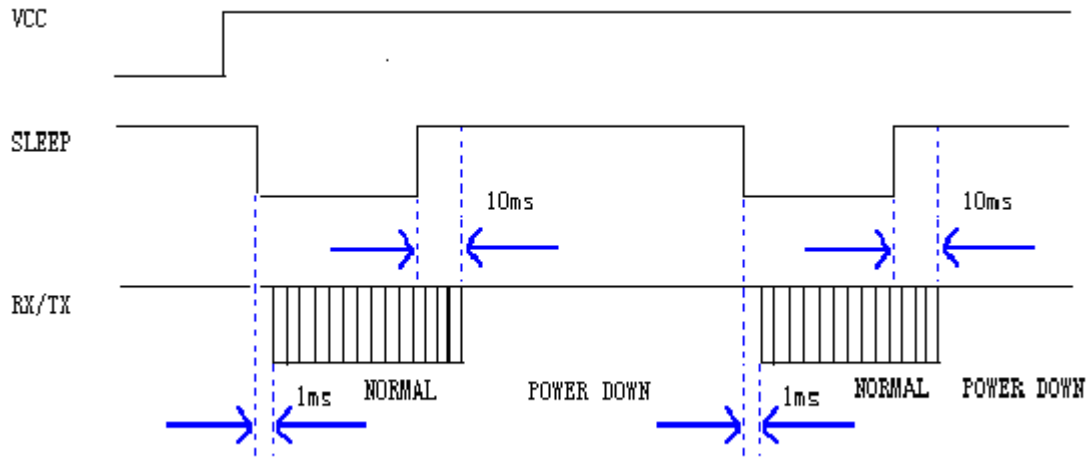
To disable the opened sleep function of KYL-500L, the SLP (SLEEP) pin should be definitely connected with 0 or ground.

b. Attentions about the use of sleep function:

When the sleep function enabled, any supply glitches, such as switch dithering, fire striking or quick switching on and off may cause the transceiver moving to wrong sleep mode.

Users can avoid this error by making a compulsive restoration once the CPU delays 100ms after switching on

About the sleeping mode



7. Standard package

(a). One KYL-500S RF module

(b). One 6-pin ribbon cable

(c). One coil antenna

If you have special requirements, please contact us for more details.