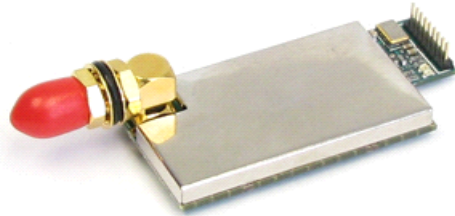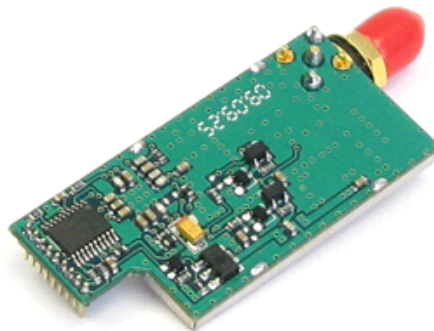# KYL-500L Small Size RF Transceiver

face

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I: About KYL-500L

KYL-500L, the micro power wireless transceiver data module is designed for wireless POS terminal. With small size, low power consumption as well as good stability and reliability, it is also widely used for other embedded systems.

II. Technical parameter

PERFORMANCE	
Power Output:	400mW
RF Line-of-sight Range:	2000m@1200bps; 1500m@9600bps

RF Effective Rate:	1200/2400/4800/9600/19200bps
Space Channel:	1MHz(Default), (12.5/25KHz Customization)
Bandwidth:	<25KHz
Receiver Sensitivity:	-123dBm@1200bps (1% BER)
NETWORKING	
Networking Topology:	Point-to-point, point-to-multipoint
COMPATIBILITY	
KYL-200 and KYL-300 and KYL-500 series	
POWER	
Supply Voltage:	5V DC (3.3V-3.6V optional)
Transmit Current:	<350mA
Receive Current:	<25mA
Sleep current:	<1uA
GENERAL	
Communication Mode:	Half-duplex
Frequency Band:	400-470MHz
Channel:	8(default),16/32/64(optional)
Interface:	TTL/UART
PHYSICAL PROPERTIES	
Size:	49mm×23mm×10mm (excluding antenna base and data pin)
Weight:	20g
Antenna Base:	50Ω, SMA
Operating Temperature:	Industrial:-40℃~+80℃(TCXO)
Frequency Stability:	±2.5ppm Industrial

III. Applications of KYL-500L

Wireless Dish-ordering system;
Automatic Meter Reading (AMR)
Wireless POS terminal,
Wireless PDA
Wireless alarm and security systems
Wireless data transmission, automatic data collection system;

IV. How to Use KYL-500L

KYL-500L is a TTL interface data transceiver. Here is its diagram.
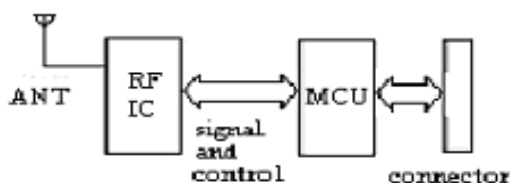
KYL-500L Principle map

1. Power supply

The factory setting is DC 5V.

2. Pin definition

| Pin No.	Signal name	Function	level	Remarks
1	GND	Ground of power supply		
2	VCC	Power supply DC	5V	
3				
4	GND			
5	TEST	Factory testing		
6	-	For future development	TTL	
7	SLP	Sleep control(TTL level)	TTL	Low level valid
8	RXD	Data receiving	TTL	
9	TXD	Data transmitting	TTL	

3. Setting of channel, interface, and data format

You can use KYLCOM.exe software to read or set the parameter, such as frequency, channel on your computer.

4. Default frequency for each channel

Ch. No	Frequency	CH. No.	Frequency	Ch. No.	Frequency	Ch. No.	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

5. **Installation dimension (mm):**
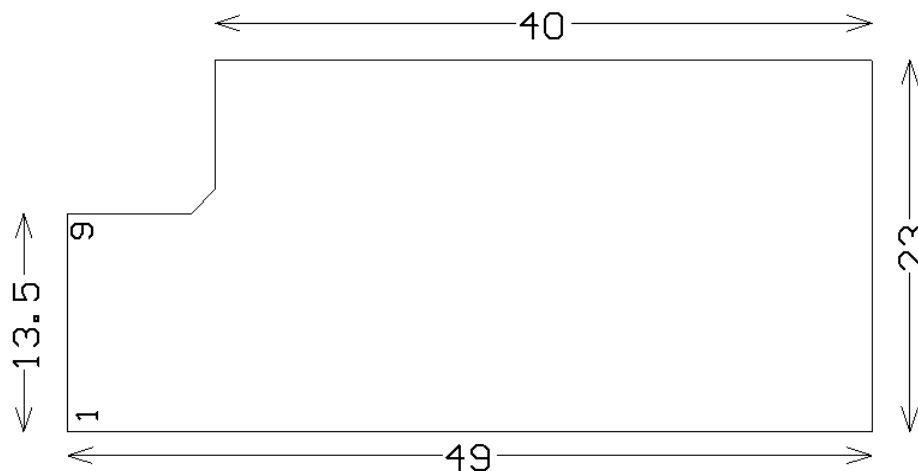
6. The Function-indicator light

    a. The LED indicator turns red for 0.5S once power on.

    b. The LED indicator turns green continually while receiving data.

    c. The LED indicator turns red continuously when transmitting data.

    d. If the module enters to sleep mode, LED indicator light is always dark.

7. 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
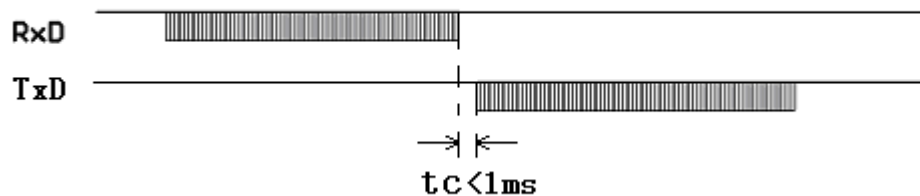
    Sleep Timing Diagram:

The shadow part is show that the RF module is under normal working state.
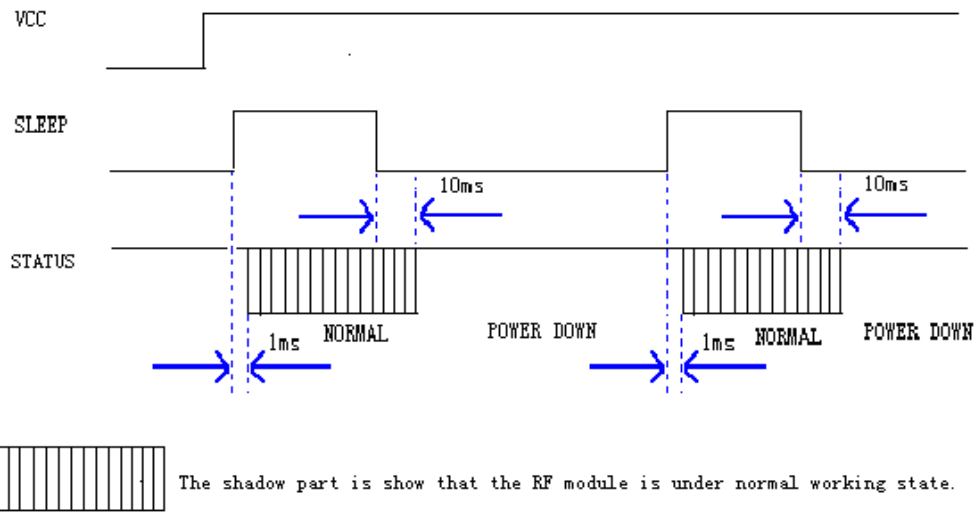
8. Attentions about data transmission

a. The delay time of conversion between transmitting and receiving is less than 1ms.
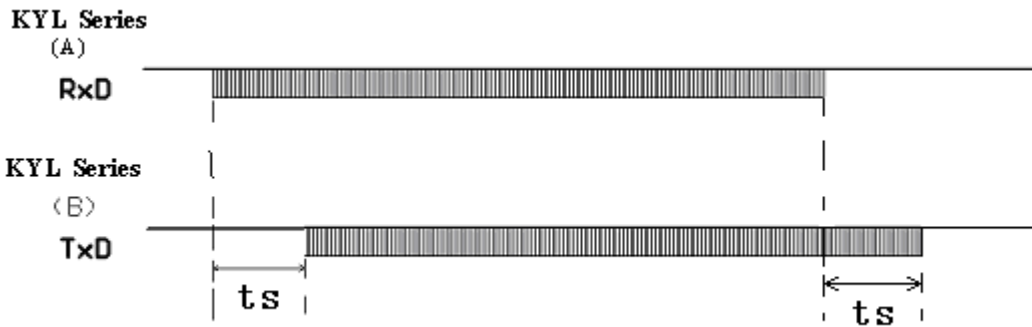
Timing diagram:

KYL SERIES

b. The delay time of transceivers between the first bit sent by TxD to the first bit received by RxD is as follows.

RF Date Rate (bps)	Delay Ts(mS)	RF Date Rate (bps)	Delay Ts(mS)
1200	90	9600	16
2400	48	19200	10
4800	30		

Timing diagram:

9. Antenna configuration:

We usually use A2 antenna for this module, if you have other requirements, please specify before placing the order! Thanks!