

## KYL-300L Low Power RF Transceiver Module



### I: About KYL-300L

KYL-300L is a low power wireless transceiver data module. With metal shell, low power consumption as well as good stability and reliability, it is widely used as wireless data transceiver in industrial field. RS232, RS485, TTL and USB interface are selectable for this item.

### II: Data sheet of KYL-300L:

<b>PERFORMANCE</b>	
Power Output:	500mW(Default), (500mW~1W optional)
RF Line-of-sight Range:	3Km@1200bps; 2Km@9600bps
RF Effective Rate:	1200/2400/4800/9600/19200bps
Space Channel:	1MHz(Default), (12.5/25KHz customized )
Bandwidth:	<25KHz
Receiver Sensitivity:	-123dBm@1200bps (1% BER)
<b>NETWORKING</b>	
Networking Topology:	Point-to-point, point-to-multipoints
<b>COMPATIBILITY</b>	
KYL	
<b>POWER</b>	

Supply Voltage:	5V DC (Default); (7.5~12V optional)
Transmit Current:	<350mA
Receive Current:	<28mA
Sleep current:	<20uA
<b>GENERAL</b>	
Communication Mode:	Half-duplex
Frequency Band:	400-470MHz
Channel:	8(default),16/32/64(optional)
Interface:	TTL/RS232/RS485/USB
<b>PHYSICAL PROPERTIES</b>	
Size:	80mm×45mm×19mm (excluding antenna base and data pin)
Weight:	80g
Antenna Base:	50Ω, SMA
Operating Temperature:	Industrial:-40℃~+80℃(TCXO)
Frequency Stability:	±2.5ppm Industrial

### III: Application of KYL-300L:

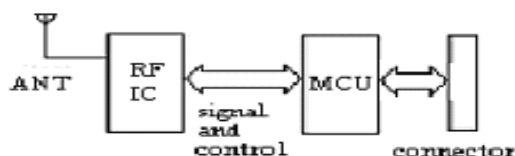
- \* Automated Meter Reading
- \* Wireless alarm and security systems
- \* Building automation, security, wireless monitoring and control
- \* Wireless data transmission, automatic data collection system;
- \* Sports training & competition;
- \* Wireless POS, PDA wireless smart terminal;
- \* Wireless telemetry Charging for parking, parking lot;
- \* Automobile inspection and four-wheel orientation;
- \* Point to multi-point wireless network
- \* RS-485 to wireless solution

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### IV: How to use the KYL-300L

#### 1. About the interface

KYL-300L provides RS-232, RS-485 and TTL level interface port for direct connection with PC, RS485 devices, micro-controller and other UART level system. The schematic diagram is shown below:



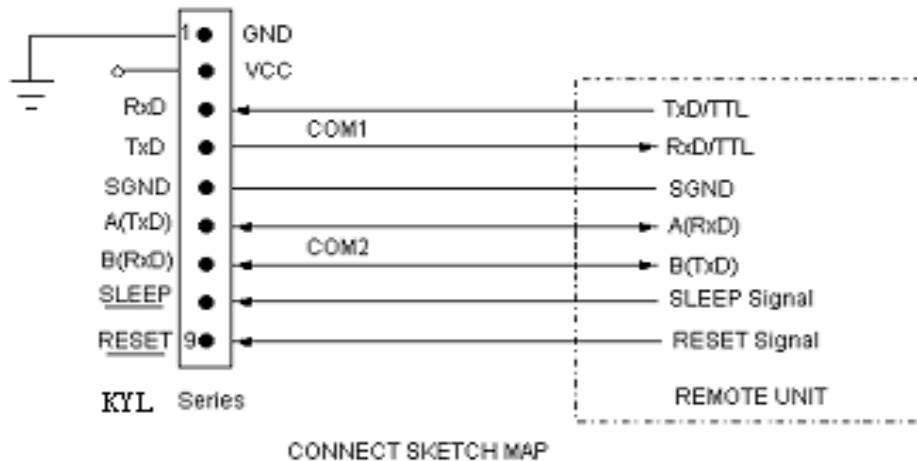
KYL-300L Principle map

2. Default 5V Power supply
3. PIN Definition (9pin)

**Table 1: JP1 Pin Definitions and connection methods**

Pin No.	Signal Name	Function	Level	Connection with terminal	Remarks
1	GND	Grounding of power supply		Ground	
2	Vcc	Power supply DC	5V		
3	RxD/TTL	Serial data input to the transceiver	TTL	TxD	
4	TxD/TTL	Transmitted data out of the transceiver	TTL	RxD	
5	SGND	Signal			
6	A (TXD)	A of RS-485(TxD of RS-232)		A(RxD)	
7	B (RXD)	B of RS-485(RxD of RS-232)		B(TxD)	
8	SLEEP	Sleep control (input)	TTL	Sleep signal	High level sleep
9	RESET	Reset signal(input)	TTL		Negative pulse reset

### 3. The connection schematic diagram between computer and our RF module



### 4. Parameter setting by our software

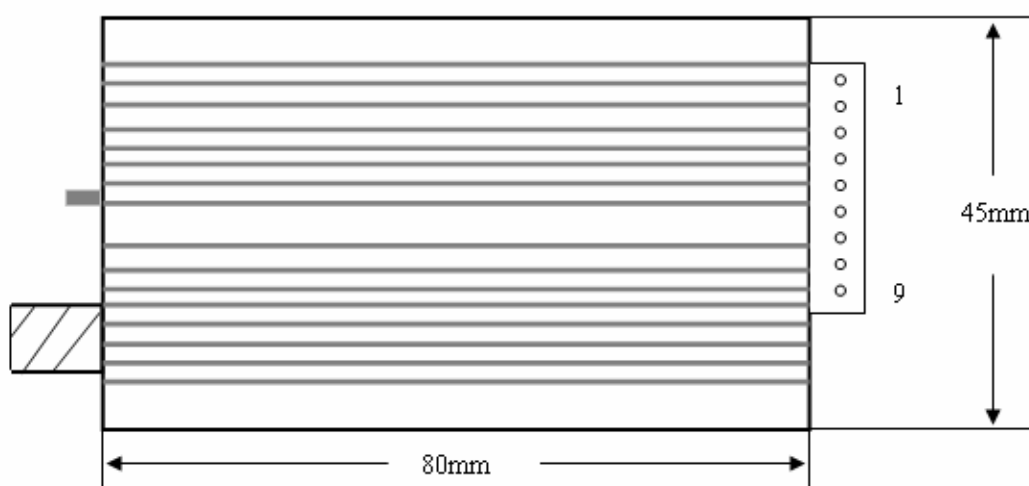
You can use our software KYLCOM.exe to read or set the parameter on computer. When you connect RF module to PC by the testing cable, please remember to connect the DB9 as well as USB port to computer.

#### Channel configuration:

Channel No.	Frequency	Channel No.	Frequency
1	429.0325MHZ	5	433.0325MHZ
2	430.0325MHZ	6	434.0325MHZ
3	431.0325MHZ	7	435.0325MHZ
4	432.0325MHZ	8	436.0325MHZ

**Note: the frequency points corresponding to each channel can be adjusted based on the user's needs.**

### 5. Installation dimension:



### 6. The Function-indicator light

- The LED indicator light will glitter red for 0.5S once after switched on.
- The LED indicator light will glitter green continually while receiving data from air.
- The LED indicator light will glitter red continuously when transmitting data into air after receiving from COM.
- If the module enables the sleep function, LED indicator light is always dark.

### 7. Supported protocol and Transmit capability

KYL-300L RF transceivers offer transparent protocol to support users' various applications. If you have special application, such as addressing, data acquisition, command interpretation, etc, please contact us for further details..

### 8. Sleep function instruction:

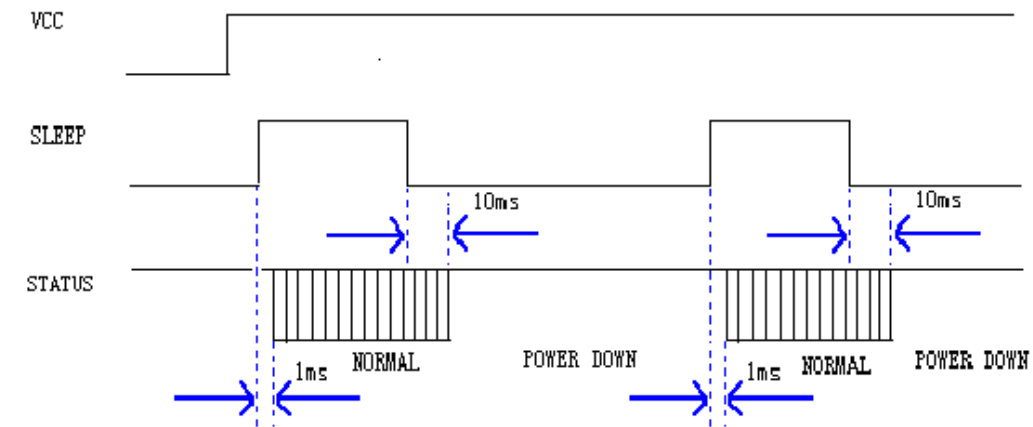
KYL-300L transceivers support Sleep function. In sleep mode, the current consumption is less than 20uA.

**a. How to use the Sleep function:**

The Pin8 ‘SLP’ in JP1 is the signal of sleep control. In high electronic level, transceiver stays in working mode. In low power level (<0.5V), transceiver stays in sleep mode. The SLP signal can shift 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 1ms after rising edge.

To disable the opened sleep function of KYL-300L, the SLP (SLEEP) pin should be definitely connected with 0 or ground.

**b. Sleep Timing Diagram:**



The shadow part is show that the RF module is under normal working state.

**9. About antenna**

We usually use the following antenna. If you have other requirements. Please contact us for more details or visit our web for more options.

