

KYL-600L Wireless audio Module User Manual



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Before using the product, please read this use manual carefully. Any questions, welcome to contact us.

About KYL-600L:

KYL-600L Audio radio module, adopts double VCO structure, high stability TXCO. With advanced arithmetic fault-rectify system in software design, it has high stability and reliability. This module is usually used for industry control, water conservancy, electric, oil field management, wireless alarm so on. Moreover, we can extend its functions and ODM products for you according to your specific application.

1. Specifications:

- * Operating Voltage: DC 5V
- * Carrier Frequency: VHF/UHF 230-400MHz
- * Interface: standard RS-232/RS-485/TTL Selectable
- * Baud Rate: 1200/2400/4800bps Selectable
- * Channel spacing: 25kHz
- * Frequency stability: ± 2.5 ppm
- * Modulation: FFSK; Channels: 16
- * Impedance: 50 Ω
- * Transfer distance: 3km(BER=10⁻³@9600bps);
- * Temperature: -25 $^{\circ}$ C~+65 $^{\circ}$ C
- * Size: 70x46x12mm(without antenna port)
- * Weight: 180g

2. Receiver:

- * Receiving sensibility: $\leq 0.25\mu$ V (12dB SINAD)
- * Signal-to-Noise: ≤ -40 dB
- * Adjacent channel selectivity: ≥ 70 dB
- * Inter-modulation rejection: ≥ 65 dB
- * Clutter and images rejection: ≥ 70 dB
- * Receiving current: 50mA
- * Audio Output power: 0.5W (8 Ω , 10% distortion)
- * Receiving distortion: $\leq 3\%$

3. Transmitter:

- * RF power: ≤ 500 mW (1W/2W customized)
- * Transmitting current: 300mA
- * Modulation: FFSK
- * Audio distortion: $\leq 3\%$
- * Frequency deviation: ± 5.0 kHz
- * Adjacent channel power: ≥ 70 dB
- * Transmitter start up time: ≤ 50 m
- * Surplus Frequency Modulation: ≤ -40 dB
- * Modulation distortion: $\leq 3\%$
- * Modulation sensibility: 5mV
- * Transmission distance: 3Km

* Volts D.C.: 5V (12V optional)

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4. Features of KYL-600L:

- 1) Design based on the special use of the wireless voice transmission in the industrial automation field.
- 2) High stability, good reliability and low power consumption
- 3) Standard connection: RS-232/485/TTL
- 4) Facility for installation and maintenance, Flexible networking configuration, suitable for the field of multiple point but decentralization and complex geography environment.
- 5) Metal shell, good shielding performance, providing frequency passage.
- 6) Providing many MODEM communication protocols
- 7) To adapt different user structure, we can develop various size modules and offer sufficient technology support for client use the module and second development for free.

5. Size

Product dimension: 70x46x12mm

Antenna connection: TNC (SMA) -50Ω

Interface definition:

Pin No.	Signal Name	Function	Level	Connection with terminal
1	VCC	Input power	12V	5V optional
2				
3	GND	Grounding of the power		
4				
5	A(TXD)	RS-485 A or TXD of RS-232		Choose RS-485 or RS-232
6	B(RXD)	RS-485 B or RXD of RS-232		
7	PTT	transmitt controlling	TTL	Low level
8	MIC	Input audio		Using micphone of 1-2kΩ and -27dB
9	SP	Output audio		8Ω 0.5
10	SQ	Receiveing	TTL	High level

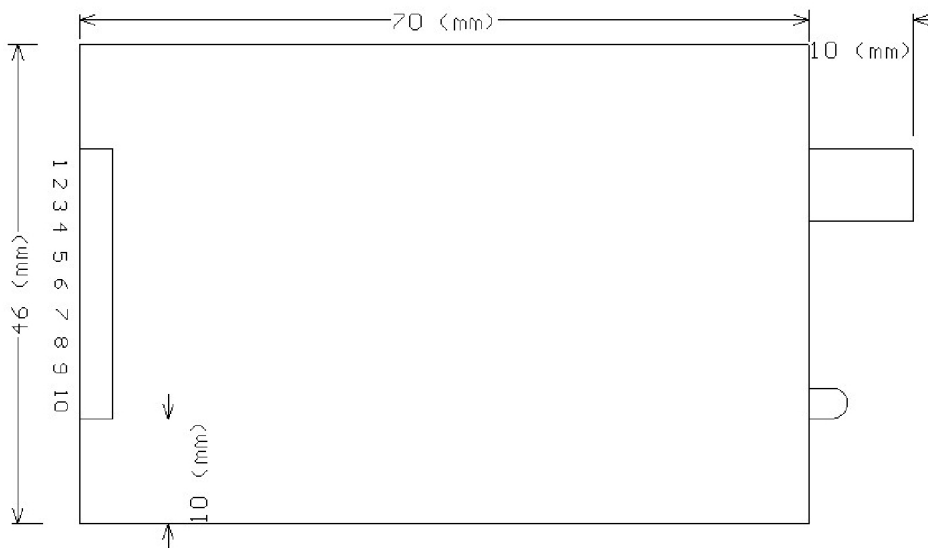
6. Applications:

- * Industrial automatic control and remote control
- * Wireless data acquisition and SCADA
- * Environment monitoring systems
- * AMR Automatic Meter Reading
- * Wireless alarm and security systems
- * Building automation, security, wireless monitoring and control of room equipment, Access Control System;
- * Wireless data transmission, automatic data collection system;
- * Low power telemetry
- * Wireless conference voting system;
- * Sports training & competition;
- * Wireless POS, PDA wireless smart terminal;
- * Electronic bus station and intelligent traffic;
- * RF transmitter Wireless electronic display screen and queuing

machine;

- * Wireless telemetry Charging for parking, parking lot;
- * Wireless modem Automobile inspection and four-wheel orientation;
- * Wireless sensor Industrial wireless remote control and air conditioning remote controller;
- * Data communication used for railway, oil field, dock and army.
- * LED display in thruway and public places
- * Point to multi-point wireless network, wireless on-the-spot bus and automatic data collection system;
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7. The installing schematic



8. Notice

- 1) The antenna should be away from the power supply if use the switch power, because the transmitting of the antenna may affect the normal work of the switch power. When the transmission happen fault, checking the power voltage whether interfered from the antenna is one way of eliminating fault.
- 2) Use the min. grain wave and high anti-jamming switch power or batteries
- 3) The power capacity must meet D.C. 5~12V, more than 800mA output current
- 4) The space between the experiments Radio should be more than 5m. The antenna should span on the high to increase the distance of electric wave. It is important for using shortwave communication equipment in the city.
- 5) After connecting the antenna to the Radio, the space between the Radios should more than 10m, so avoid signal backup.
- 6) The antenna plywood should nip in the connection inside the antenna, but not nip the antenna projectile, so avoiding the performance of the antenna.
- 7) High frequency cable don't come down directness, circle a circuit and fix up it on the frame for the best.

9. Standard configuration and Antenna configuration

i: Standard configuration:

- * One KYL-600L RF module
- * A 9pin flat Connection Line

* A whip antenna (about 10cm)

ii: Antenna configuration:

Many appropriate antennas for low power RF modules are selected to meet different user's antenna configuration. Please ask our Sales office for further information about the antenna's dimension and performance. The main options of antennas are exterior flabelliform rubber antenna with helical SMA joint, small osculum antenna, small rod antenna and elbow antenna. If the user has special demands on antennas, we can design and produce individually.

a. Helical SMA antennas: KYL-ANT-S868-5-SMA



b. Elbow antenna: KYL-ANT-S433L-10-ESMA



c. Small rod antenna: KYL-ANT-S433-4-RSMA



d. Small osculum antenna: KYL-ANT-O433S-300H1.5-SMA

