

# UART WiFi Module

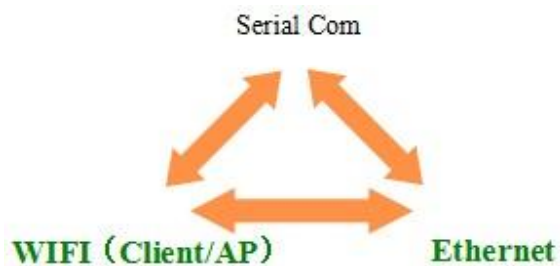


wifi module HLK-RM04 With 32m ram 8M flash

## DETAILS

HLK-RM04 is a new low-cost embedded UART-ETH-WIFI module (serial port - Ethernet - Wireless network) developed by Shenzhen Hi-Link Electronic co., Ltd. This product is an embedded module based on the universal serial interface network standard, built-in TCP / IP protocol stack, enabling the user serial port, Ethernet, wireless network (wifi) interface between the conversions. Through the HLK-RM04 module, the traditional serial devices do not need to change any configuration; data can be transmitted through the Internet network. Provide a quick solution for the user's serial devices to transfer data via Ethernet.

[Down Datasheet here](#)



Picture1.F-structure

# 1.Summarize

## Technical Specifications

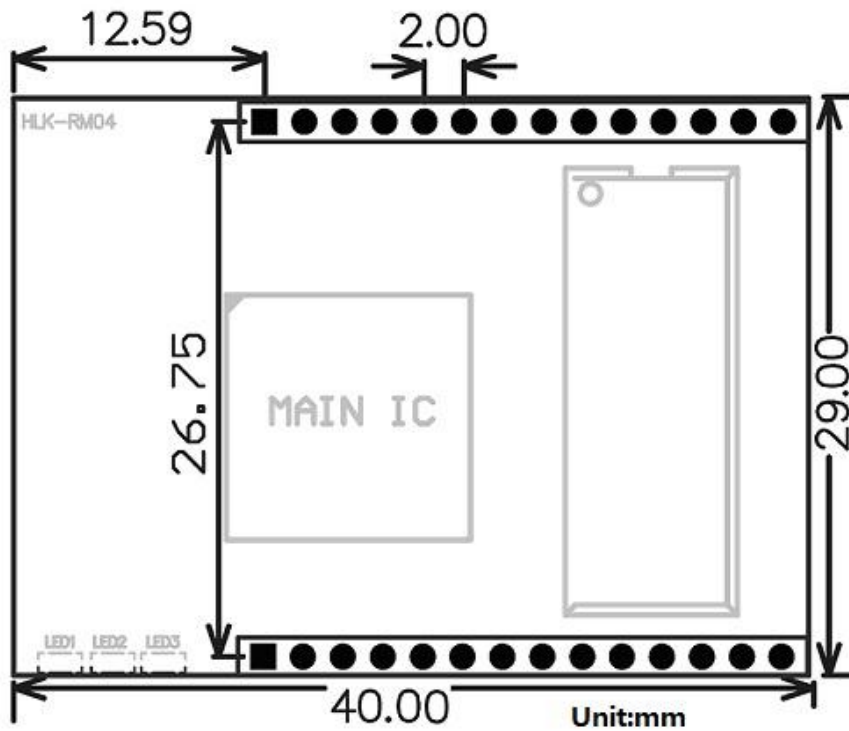
Network standard	wireless : IEEE 802.11n、IEEE 802.11g、IEEE 802.11b
	wired : IEEE 802.3、IEEE 802.3u
Wireless transmission rate	11n: maximum up to 150Mbps 11g: maximum up to 54Mbps 11b: maximum up to 11Mbps
Tracks number	1-14
Frequency range	2.4-2.4835G
Emission power	12-15DBM
Interface	1个10/100Mbps LAN/WAN multiplex interface、interface
<b>Antenna</b>	
Antenna type	Onboard antenna / External Antenna
<b>Functional Parameters</b>	
WIFI work mode	Client/AP/Router
WDS Function	Support WDS wireless bridge connection
Wireless security	Wireless MAC address filtering
	Wireless security function switch
	64/128/152 bit WEP encryption
	WPA-PSK/WPA2-PSK、WPA/WPA2 security mechanism
Network management	Remote Web management
	Configuration file import and export
	WEB software upgrade
<b>Serial to Network</b>	
Maximum transmission rate	230400bps
TCP connection	Max connection number>20
UDP connection	Max connection number>20

Serial baud rate	50~230400bps
<b>Other Parameters</b>	
Status indicator	Status indicator
Environmental standard	Operating temperature : -20-70°C
	Operating humidity : 10%-90%RH
	Storage temperature : -40-80°C
	Storage humidity : 5%-90%RH
Additional properties	Frequency bandwidth optional : 20MHz、 40MHz ,Auto

## 2. Hardware Explanation

### Mechanical Dimensions

HLK-RM04 Mechanical Dimensions is shown in the following picture :



### 3. Pin Interface

The Pin of this product as shown above is defined as follows

Table2-2 module pin interface

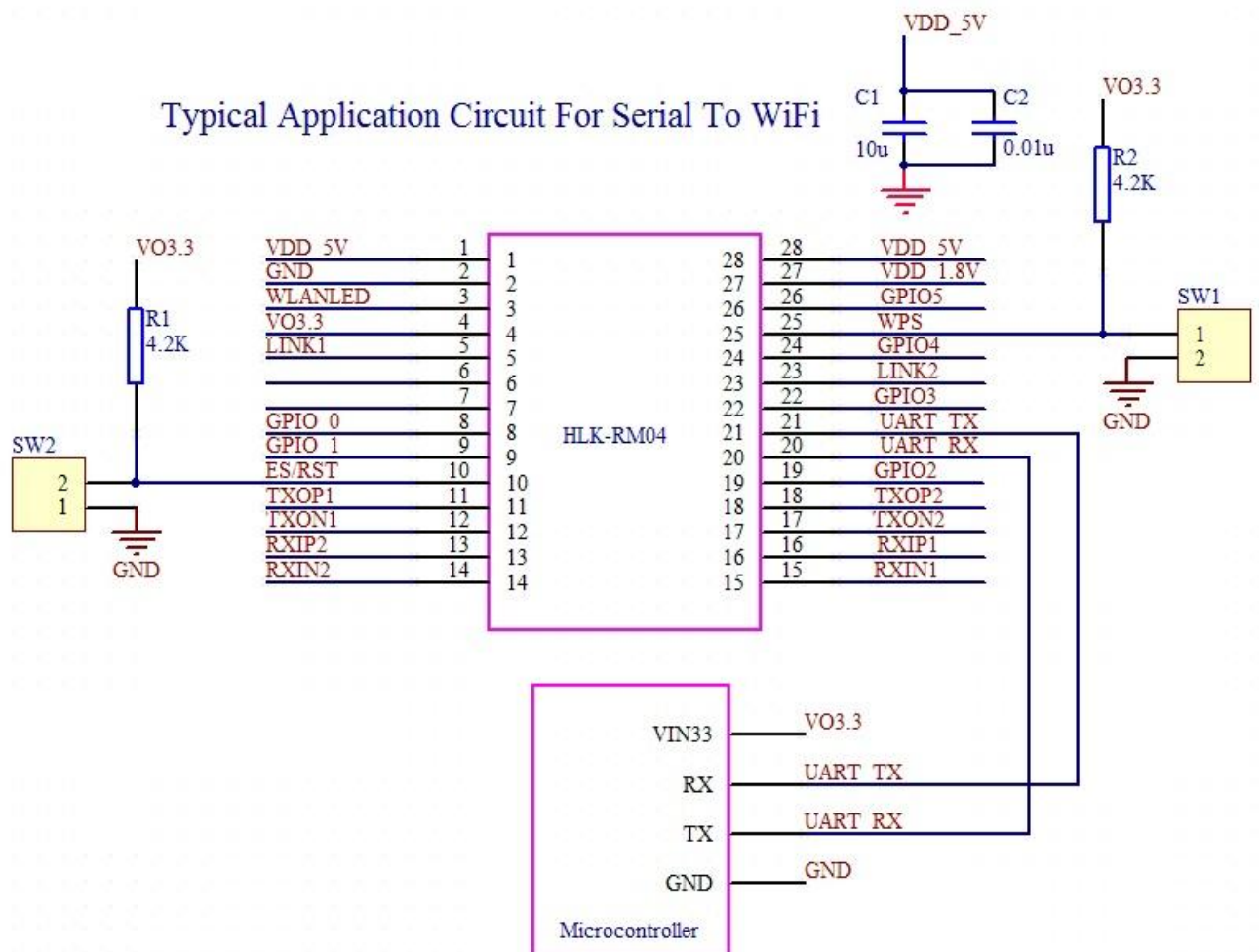
No	Fuction	Direction	Explanation
1	VCC	Power In	5V power supply input
2	GND	GND	Power Ground
3	WLAN_LED	0	WIFI start-up indicate (valid on High level)
4	VDD	Power Out	3.3V power output
5	LINK2	0	Net port 2 connection indicate (Valid on lower level)
6	USB_P	I/O	USB signal+
7	USB_M	I/O	USB signal-
8	STA/GPIO_0	I/O	Status indication/GPIO_0 (valid on low level)
9	GPIO_1	I/O	GPIO_1
10	ES/RST	I	Exit transparent transmission mode/restore factory value
11	TXOP2	A	Net port 2 TX-P
12	TXON2	A	Net port 2 TX-N
13	RXIP1	A	Net port 1 RX-P
14	RXIN1	A	Net port 1 RX-N
15	RXIN2	A	Net port 2 RX-P
16	RXIP2	A	Net port 2 RX-P
17	TXON1	A	Net port 1 TX-N
18	TXOP1	A	Net port 1 TX-P
19	RTS_N/GPIO_2	I/O	Uart 2 RTS
20	UART_RX	I	Uart 1 RX
21	UART_TX	0	Uart 1 TX
22	RXD/GPIO_3	I/O	Uart 2 RX
23	LINK1	I/O	Net port 1 connection indication (valid on low level)
24	CTS_N/GPIO_4	0	Uart 2 CTS
25	WPS/RST	I	WPS button/restore factory value
26	TXD/GPIO_5	0	Uart 2 TX
27	VDD_1_8	Power Out	Net port 1.8V output
28	VCC	Power In	5V input

## 4. Electrical Characteristics

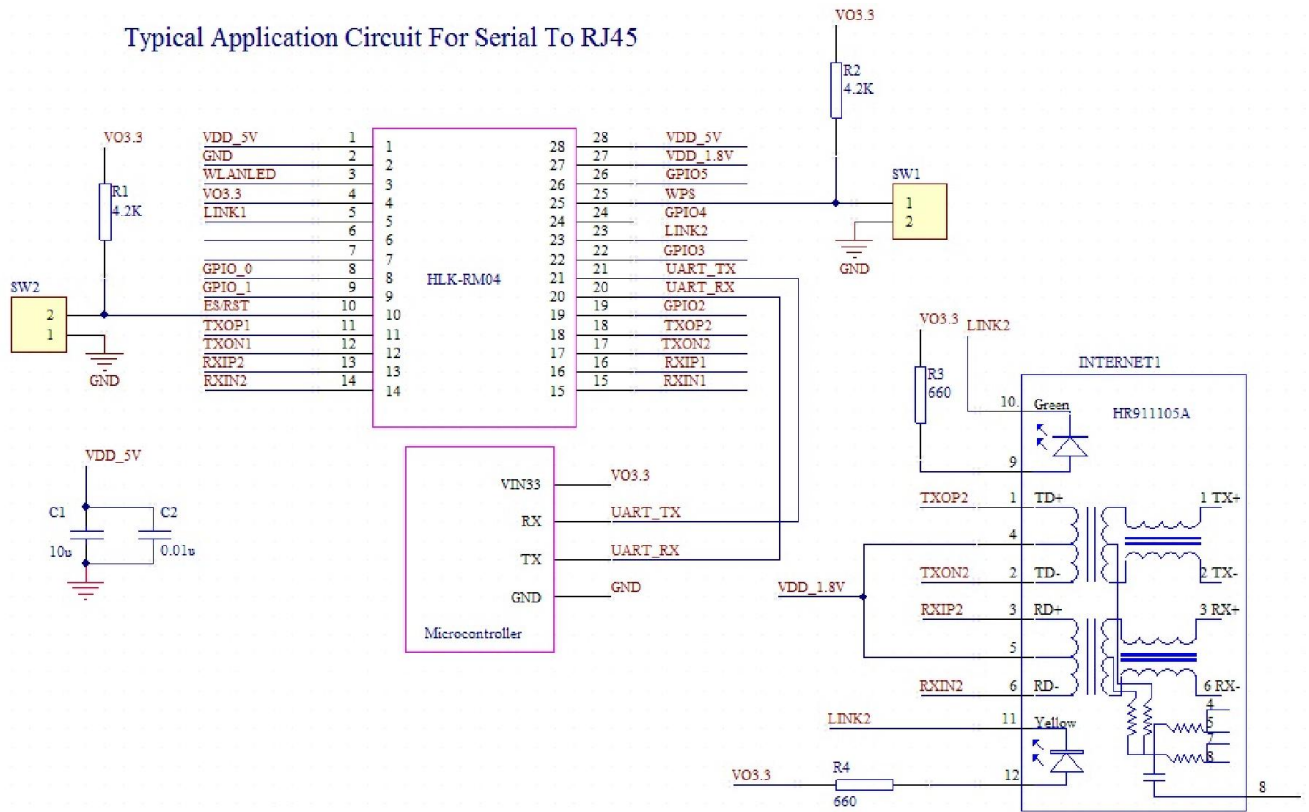
Exceeding these conditions will result in damage to the device

Parameter	Min	Max
Module supply voltage VCC	3.9V	5.5V
Module Voltage Output VO3.3	3.1V	3.5
Module Voltage Output VO1.8	1.65V	1.9
GPIO Voltage	3.1V	3.5V
Storage temperature	-40°C	95°C

## 5. Typical Application Circuit



## Typical Application Circuit For Serial To RJ45



# WiFi Router With Serial Port

