

# SKW72 User Manual

## General Description

The module SKW72 compliant to 802.11 b/g/n Wi-Fi Solution for low power, low-cost, and highly integrated AP and consumer electronic devices, the module requiring only a external 3.3V power supply and connection to antenna.

The module based on the single chip AR9331 which integrates an 802.11n 1x1 MAC/BB/radio with internal PA and LNA. It supports 802.11n operations up to 72 Mbps for 20 MHz and 150 Mbps for 40 MHz channel respectively, and IEEE 802.11b/g data rates.

The module support AP mode and client mode and repeater mode and UART wifi.

## Applications

- AP WIFI
- UART WIFI
- Repeater WIFI
- IP TV
- IP DVD(Internet VOD Player)
- Set Top Box
- Home Gateways
- Gaming Consoles
- DVR

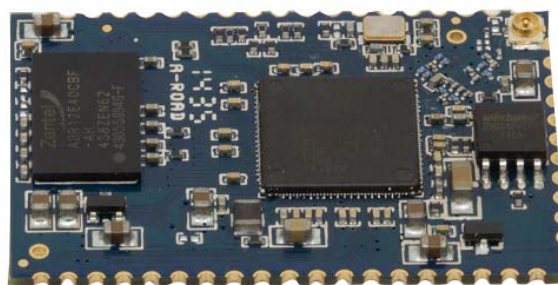


Figure 1: SKW72 Top View

## Features

- Compliant to IEEE 802.11b/g/n 1x1WLANs
- DDR2 memory up to 512Mb

- Flash memory up to 64Mb
- 4LAN ports and 1 WAN port
- Uart baud rate: 115200bps.
- USB 2.0 host device mode support
- Support AP/Client/Repeater mode
- Support UART to wifi transparent
- Security: WEP 64/128, WPA, WPA2, TKIP, AES, WAPI
- RoHS compliance meets environment-friendly requirement.
- 40.5(L) x 27.5(W) x 2.9(H) mm small dimension

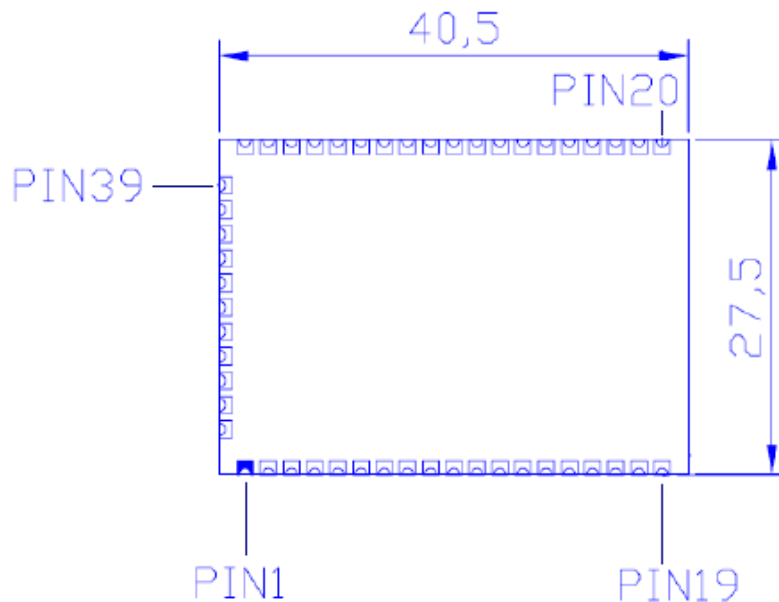
### Ordering Information

Module NO.	Antenna Connector Type	SPI Flash Size
SKW72_P8	Pin Antenna	8M Byte

Antenna Type: PCB Pin antenna

Antenna Gain: 1dBi

### Module Pinout



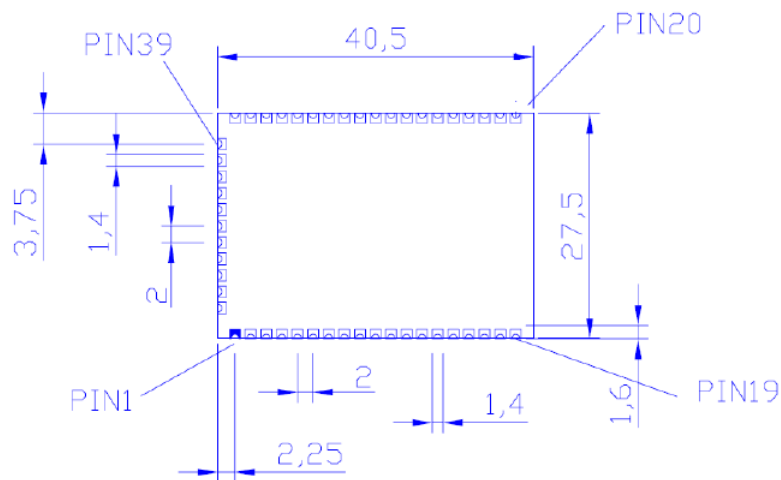
**Figure 2: SKW72 Pin Package**

## Pin Description

1	GND	GROUND
2	ANT	Antenna pin
3	GND	GROUND
4	NC	NC
5	NC	NC
6	NC	NC
7	RESET_CONFIG (UART_CTS) (GPIO_12)	resets the firmware to its default configuration. Active pulling up。
8	LED6 (GPIO_17)	WLAN LED
9	LED5 (GPIO_16)	LAN_PORT3_LED, be free for customer defined.
10	LED4 (GPIO_15)	LAN_PORT2_LED
11	LED3 (GPIO_14)	LAN_PORT1_LED
12	LED7 (GPIO_27)	SYSTEM LED
13	LED1 (GPIO_1)	USB LED
14	LED2 (GPIO_13)	LAN_PORT0_LED
15	LED0 (GPIO_0)	Wireless LED
16	UART_RX (SPI_CS1)	Serial data in
17	UART_TX (SPI_CS2)	Serial data out
18	GND	GROUND
19	GND	GROUND
20	WAN_PORT_RX+	WAN port
21	WAN_PORT_RX-	WAN port
22	WAN_PORT_TX+	WAN port
23	WAN_PORT_TX-	WAN port
24	LAN_PORT3_TX+	Ethernet port3
25	LAN_PORT3_TX-	Ethernet port3
26	LAN_PORT3_RX+	Ethernet port3
27	LAN_PORT3_RX-	Ethernet port3
28	LAN_PORT2_RX+	Ethernet port2
29	LAN_PORT2_RX-	Ethernet port2
30	LAN_PORT2_TX+	Ethernet port2
31	LAN_PORT2_TX-	Ethernet port2
32	LAN_PORT1_TX+	Ethernet port1
33	LAN_PORT1_TX-	Ethernet port1
34	LAN_PORT1_RX+	Ethernet port1
35	LAN_PORT1_RX-	Ethernet port1
36	GND	GROUND

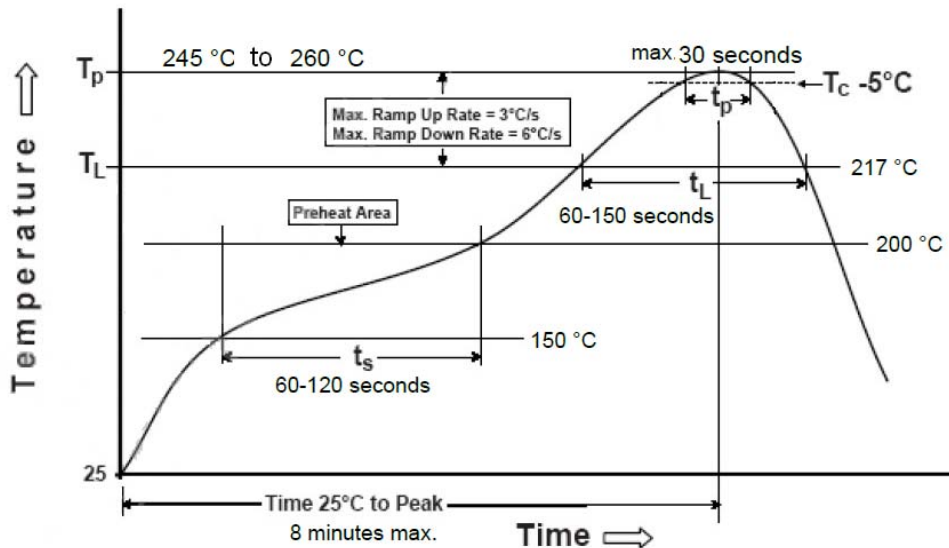
37	VDD_3.3V	3.3V input 1000mA, recommended voltage 3.3V,Min2.97V, MAX 3.63V
38	VDD_3.3V	3.3V input 1000mA, recommended voltage 3.3V,Min2.97V, MAX 3.63V
39	VDD_2.0V OUTPUT	Power supply output for peripheral network transformer
40	GND	GROUND
41	LAN_PORT0_RX+	Ethernet port0
42	LAN_PORT0_RX-	Ethernet port0
43	LAN_PORT0_TX+	Ethernet port0
44	LAN_PORT0_TX-	Ethernet port0
45	USB -	USB signal, carries USB data to and from the USB 2.0 PHY
46	USB +	USB signal, carries USB data to and from the USB 2.0 PHY
47	LED8(GPIO_26)	JMP_START LED
48	JUMPSTART (UART_RTS) (GPIO_11)	KEY_INPUT to start WPS function. Active pulling up.
49	GND	GROUND

## Module Dimensions



**Figure 3: SKW72 dimensions**

## Manufacturing Process Recommendations



**Figure 4: SKW72 Typical Leadfree Soldering Profile**

**Note:** The final soldering temperature chosen at the factory depends on additional external factors like choice of soldering paste, size, thickness and properties of the baseboard, etc. Exceeding the maximum soldering temperature in the recommended soldering profile may permanently damage the module.

### FCC Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

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#### FCC Radiation Exposure Statement

The modular can be installed or integrated in mobile or fix devices only.

This modular cannot be installed in any portable device, for example, USB dongle like transmitters is forbidden.

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.

This exterior label can use wording such as the following:

“Contains Transmitter Module FCC ID:2ACOE-SKW72 Or Contains FCC ID:2ACOE-SKW72”

when the module is installed inside another device, the user manual of this device must contain below warning statements

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product

## CE Statement

Manufacturer: Skylab M&C Technology Co., Ltd., Hereby, kylab M&C Technology Co., Ltd. hereby declares that this WIFI module, SKW72 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.